

3.1.8 Biota

3.1.8.1 Regulatory Setting

This section briefly describes the federal and state legislation that applies to the protection of biological resources.

Federal Laws

Federal Endangered Species Act of 1973, 16 USCA (United States Code Annotated) §§1531 to 1544 (ESA). The ESA prohibits activity that adversely affects any federally threatened or endangered species or their designated critical habitats. The ESA also establishes a process for consultation and evaluation by the USFWS of proposed federal projects. Through the consultation process and specific provisions for habitat preservation, the ESA provides strong federal protection for species and habitat diversity, especially in cases where habitat loss has caused species endangerment. Federal courts have consistently interpreted the ESA to afford strong protection to protected species and their habitat.

The USFWS has been gathering data on taxa of animals and plants native to the United States that have appeared, at least at times, to merit consideration for addition to the listing of endangered, threatened, and candidate wildlife and the listing of endangered, threatened, and sensitive plants.

Candidate species do not receive substantive or procedural protection pursuant to the ESA; however, federal agencies such as the BLM generally have policies protecting candidate species.

Candidate species are taxa for which the USFWS currently has substantial information on hand to support the biological appropriateness of proposing to list as endangered or threatened. Development and publication of proposed rules on these taxa are anticipated, and the USFWS encourages other federal agencies and other appropriate parties to give consideration to such taxa in environmental planning.

Bald Eagle Act of 1940 (Eagle Protection Act of 1963). This Act made it illegal to "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or in any manner, any bald eagle, commonly known as the American eagle, alive or dead, or any part, nest, or egg thereof." Protection under the Act was extended to golden eagles in April 1963.

Migratory Bird Treaty Act. This Act placed all migratory birds under federal jurisdiction and protection. It prohibits the capture, killing, or possession of any bird species identified by various international conventions. Conventions to protect migratory birds have been signed with Great Britain, Mexico, Japan, and Russia. In this Act, the federal government is provided with the authority to establish threshold regulations that govern the hunting and management of listed species. This Act does not provide for acquisition of habitat.

National Environmental Policy Act, 42 USCA §§4321 - 4347 (NEPA). NEPA requires all federal agencies to assess the impacts of proposed federal actions on the environment, examine alternatives, and propose mitigation measures for significant adverse impacts. NEPA does not specifically require measures to preserve habitat diversity. The identification of impacts and alternatives to proposed actions often results, however, in decisions to avoid, minimize, or compensate for losses of particularly valuable or scarce habitats.

Multiple Use - Sustained Yield Act. This Act recognizes the U.S. Forest Service's authority to manage National Forests for purposes other than timber harvest and watershed protection. Other uses, including wildlife and fisheries resources, are to be given "due consideration." The Act does not specify the extent of consideration when preservation of wildlife habitat conflicts with other land and resource uses.

National Forest Management Act. This Act establishes the U.S. Forest Service's planning goals and processes for development of management plans on each National Forest. The act requires that forests be managed to "provide for diversity of plant and animal communities" and specifies other objectives that protect diversity, including protection of streams, lakes, and other wetlands, and protection of soil, watershed, fish, and wildlife. Steps must be taken to maintain or increase diversity of plant and animal species and communities by management and maintain viable populations of all native vertebrate wildlife populations.

Clean Water Act. Section 404 in the Clean Water Act regulates discharge of materials into "waters of the U.S." Under this provision, the U.S. Army Corps of Engineers (Corps) must issue permits for deposit of fill in waterways and wetland areas on both public and private lands. Other federal agencies (e.g., USFWS and EPA) provide recommendations concerning whether permits should be issued and under what conditions.

Executive Order 11990, Protection of Wetlands. On May 24, 1977, President Carter issued Executive Order 11990 in furtherance of the National Environmental Policy Act of 1969, as amended, "in order to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative."

State Laws

California Endangered Species Act, Fish and Game Code §§2050 - 2116 (CESA). CESA establishes a state policy to conserve, protect, restore, and enhance designated threatened and endangered species and their habitats. CESA authorizes the acquisition of habitat to conserve threatened and endangered species. CESA also protects listed fish, wildlife, and plant species from unauthorized taking, importing, exporting, or selling. An exemption, however, greatly reduces the protection of plants on private land.

CESA also establishes a consultation process between state agencies and the California Department of Fish and Game (CDFG). If the CDFG determines that a project will jeopardize a designated species or adversely modify its essential habitat, the Lead Agency must implement CDFG's alternatives to avoid jeopardy. CESA includes exceptions to the alternatives

requirement and applies only to state-approved projects. Private projects do not require consultation under CESA. However, taking is still prohibited without a permit pursuant to Section 2081 of CESA.

Section 2081 of CESA, as amended in 1997, specifically authorizes the CDFG to issue permits for the take of endangered, threatened or candidate species if the take is incidental to an otherwise lawful activity, and does not jeopardize the continued existence of the species. Thus, incidental take authority under CESA is similar to the incidental take authority under the Federal Endangered Species Act. The impacts of the incidental take must be minimized and fully mitigated. However, the mitigation obligation must be "roughly proportional" to the impact of the authorized taking, and where various mitigation measures meet the "fully mitigate" requirement, the mitigation measure that does not frustrate the objectives of the project should be used.

California Environmental Quality Act (CEQA). CEQA requires state and local agencies to evaluate the environmental impacts of proposed projects and avoid or mitigate impacts on the environment. CEQA also provides that agencies can approve or undertake projects that will significantly impact the environment if the agency makes specific findings of overriding considerations.

Fish and Game Code of California. Pursuant to Division 2, Chapter 6, §§1600-1603 of the California Fish and Game Code, CDFG regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife.

The Fish and Game Code also contains numerous sections that prohibit taking or possessing state-designated, fully protected species of birds, mammals, fish, amphibians, and reptiles. Codes also exist to protect raptor habitat and raptor nests.

Native Plant Protection Act. This Act prohibits taking, importing, or selling rare or endangered plant species subject to several broad exceptions. The exceptions include the possession or sale of real property on which the plant is growing; loss to agricultural practices, including the clearing of land; and loss during authorized timber harvest operations. The exceptions are limited: if the CDFG has notified the landowner of the presence of a rare or endangered species, the landowner must give CDFG 10 days' notice before destroying protected plants to allow an attempt to salvage the species. The only lands on which the Act affords full protection are public lands with uses other than resource development.

3.1.8.2 Methodology

The biological resources section is based on three technical reports prepared by Chambers Group: *Results of a Biological Survey for a Proposed Sand and Gravel Extraction Operation in Soledad Canyon*, March 1991; *Survey of Unarmored Threespine Stickleback Near Lang in Soledad Canyon*, March 1991; and *Results of Butterfly Survey, Transit Mixed Concrete Company, Soledad Canyon Project*, February 1992. Results of additional focused surveys have

been incorporated into this section, and the survey reports are presented in Appendices F1 through F11. General and focused biological surveys were conducted from 1990 through 1995. The surveys were conducted over the entire proposed mining and operations site and along the Santa Clara River corridor from the site downstream to River's End Trailer Park. In addition, biological resources have been analyzed through a federal Biological Assessment (Chambers Group 1996), presented as Appendix F11.

Vegetation Surveys

Vegetation surveys were conducted on April 9 and 10 and May 14 and 15, 1990 (Chambers Group 1991a). The surveys were conducted by walking over all accessible areas of the site and included analysis of plant communities onsite, identification of species within each community, and searches for sensitive plant species. Prior to the field surveys for sensitive plants, records from the California Natural Diversity Database ([CNDDDB] CDFG 1990, 1992) and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California (Smith and Berg 1988) were examined to determine which species had some potential to occur on the site. A previous biological study of the parcel (Pearson 1989) was also reviewed. In accordance with guidelines recommended by the CNPS and adopted by the CDFG (1984), all surveys were floristic in nature rather than focused only on particular sensitive plant species. This methodology reduces the probability of overlooking rare species that may not be expected to occur in the area. Surveys in both April and May were conducted in order to encompass the range of flowering periods expected for the area.

In March 1992, vegetation was sampled over the proposed site to establish baseline data for reclamation performance standards. Sampling was conducted in all major vegetation communities using transects and quadrats to assess species richness, plant density, absolute cover, and relative cover (Appendix F3).

Due to the drought conditions that existed during the 1990 vegetation surveys, another sensitive plant survey was conducted on May 1, 1992. The survey was conducted by walkover of the site with special attention given to rocky outcrops, slopes, and canyon floors. Inaccessible areas were scanned with binoculars. Directed surveys were conducted again in May 1994 (Appendix F4) and in June 1995 following a fire that spread across the site in late 1994 (Appendix F8).

Munz (1974) was consulted for species identification. Mr. Fred Roberts (at that time, Senior Botanist at the University of California, Irvine, Museum of Systematic Biology) was consulted regarding certain nomenclature and taxonomic changes that have occurred since the publication of Munz (1974) and for common names. In particular, the taxon *Quercus berberidifolia* is recognized in this EIR as distinct from that of coastal scrub oak, *Q. dumosa*, in accordance with taxonomic revisions of the genus currently in preparation (F. Roberts, personal communication).

Wildlife

General wildlife surveys were conducted on February 2, April 18, and May 5, 1990. The site and the adjacent and downstream riparian habitat were walked to determine species presence

through direct observation, listening for bird calls, and observing other wildlife signs. In addition, wildlife observed in the riparian habitat adjacent to and downstream of the site was recorded on subsequent site visits in 1990 through 1994 during focused surveys and monitoring for sensitive species habitat.

Sensitive Wildlife

Sensitive wildlife surveys were conducted concurrently with the general surveys in 1990. Prior to field surveys, records from the CNDDB (CDFG 1990, 1992) were examined to determine which species had potential to occur onsite. Special emphasis was placed on the riparian corridor offsite to the southwest to determine the potential presence of the least Bell's vireo (*Vireo bellii pusillus*). This analysis included playing a recording to elicit a response on the three survey dates in 1990.

Initial reconnaissance for unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) habitat in the river adjacent to and downstream of the site was conducted on April 9 and May 5, 1990, with permanent habitat monitoring sites selected on July 18, 1990. Monitoring of these sites for water quality and habitat suitability was continued on August 27, September 25, and October 31, 1990 (Chambers Group 1991b). Monitoring of the habitat continued on a monthly basis from January through May 1991. Subsequent to flood flows in the Santa Clara River during the 1991-1992 season, additional habitat surveys were conducted from February 24, 1992, through August 1993 as documented in Appendix F5).

A survey for sensitive butterfly species was conducted on April 4, 1991 (Chambers Group 1992a). The survey focused on the riparian area and adjacent uplands along the river, and accessible slopes and canyons on the proposed site.

A southwestern pond turtle survey was conducted on July 6 and 7, 1994. The survey area was an approximately 1½-mile section of the Santa Clara River adjacent to the Project. The survey area started ¼ mile upstream of the site and continued downstream to ¼ mile from the River's End Trailer Park. The survey included habitat reconnaissance and trapping in suitable habitat areas (Appendix F7).

In order to clarify the potential for impacts from implementation of the Project on other sensitive reptile and amphibian species, a survey of the site was conducted on March 30, 1995 (Appendix F9). This survey focused mainly on identifying onsite habitat for the San Diego coast horned lizard, coastal rosy boa, coast patch-nosed snake, and the western spadefoot toad.

3.1.8.3 Affected Environment

Surrounding Area

The Project site is located in Soledad Canyon in the western San Gabriel Mountains. Figure 3.1.8-1 presents an aerial view of the Project site and the immediate surrounding area. This area forms a transition zone between coastal and desert vegetation communities. The



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AERIAL PHOTO OF THE PROJECT SITE
Figure 3.1.8-1

rugged topography is vegetated by a mosaic of coastal sage scrub, mixed chaparral, semidesert chaparral, and chamise chaparral.

Generally, the drier southerly and westerly facing slopes support intergrading communities of coastal sage scrub and semidesert chaparral. The relatively more mesic northerly and easterly slopes support mixed chaparral and chamise chaparral.

The Santa Clara River is located adjacent to the southern portion of the site. The stretch of the river from the Project site and upstream beyond the site forms a regional wildlife movement corridor. In the immediate surrounding area of the site, the river and its tributaries (Agua Dulce Creek and Bear Creek) provide a connection between sections of the Angeles National Forest to the south and north of the Antelope Valley Freeway.

Soledad Canyon is part of the essential habitat for the unarmored threespine stickleback (USFWS 1985). Figure 3.1.8-2 shows the essential habitat for this species in relation to the Project site. The Soledad Canyon essential habitat extends from Arrastre Canyon downstream to Lang. The stretch of the Santa Clara River adjacent to and downstream of the Project is the westernmost portion (or the farthest downstream) of the Soledad Canyon stickleback habitat.

The essential habitat has been proposed but has not yet been designated as critical habitat for this endangered species.

A more detailed description of biological resources of the river corridor adjacent to and downstream of the Project site is provided in the following section.

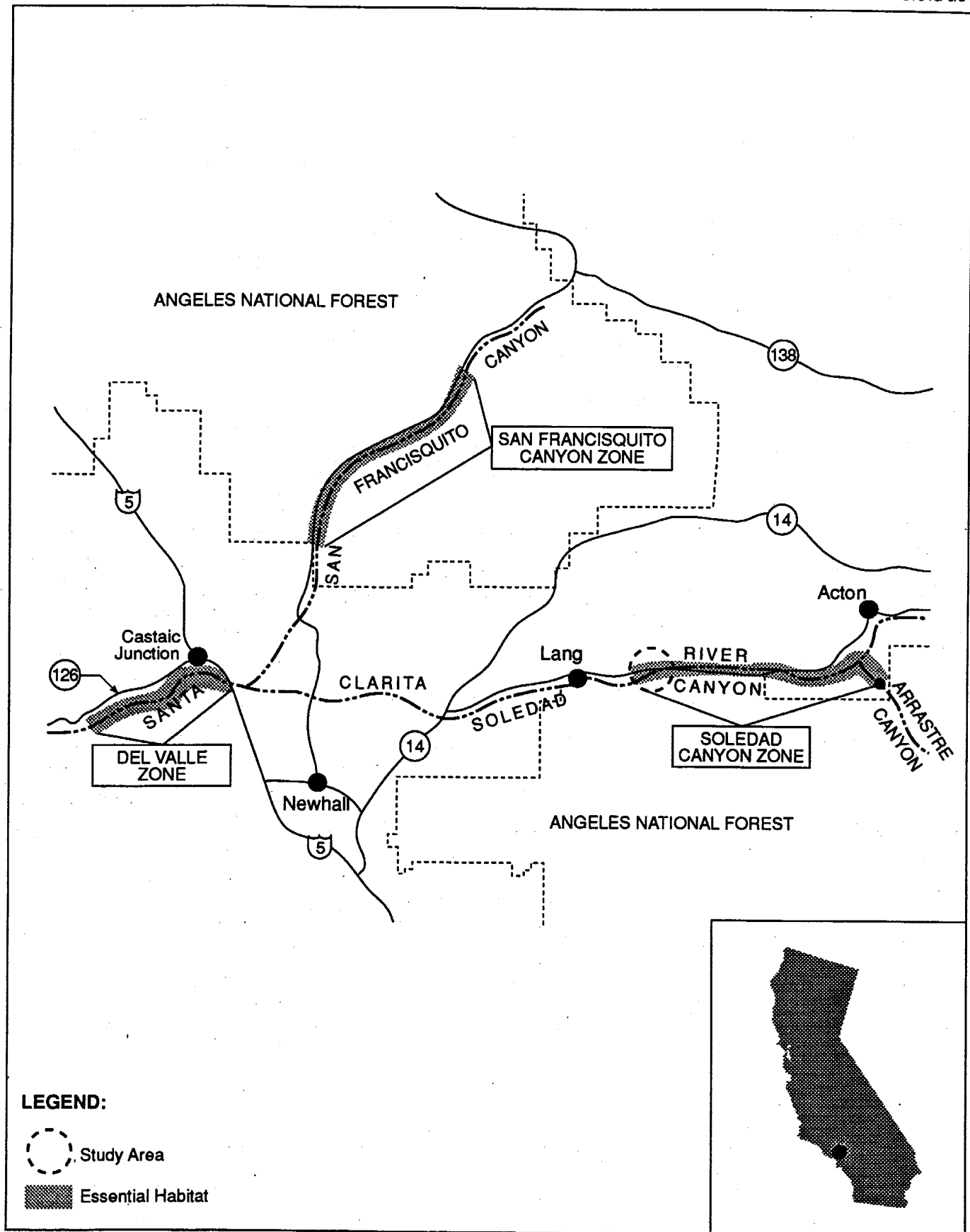
Project Site

General Vegetation

The entire site surveyed, including areas planned for sand and gravel extraction, areas leased for facilities and water development purposes, and adjacent areas that could potentially be impacted by proposed operations, supports a complex mosaic of plant communities including willow-cottonwood woodland and riparian scrub, coastal sage scrub, mixed chaparral, mixed coastal sage scrub and semidesert chaparral, and mixed chaparral and coastal sage scrub. Additionally, areas on the site have been disturbed from previous mining operations including previously deposited silt piles and silt ponds, all established from previous operators.

Figure 3.1.8-3 shows the vegetation communities of the proposed mining and facilities site. Of the area within which the sand and gravel extraction operations would be located in Areas A and B, the following communities are present: approximately 29 acres of coastal sage scrub, 290 acres of mixed coastal sage scrub and semidesert chaparral, 57 acres of mixed chaparral, 39 acres of mixed chaparral and coastal sage scrub, and 45 acres of disturbed areas caused by previous mining operations.











The vegetation communities of the areas planned for project water development and areas of the Santa Clara River corridor downstream of the Project are presented on Figure 3.1.8-4.

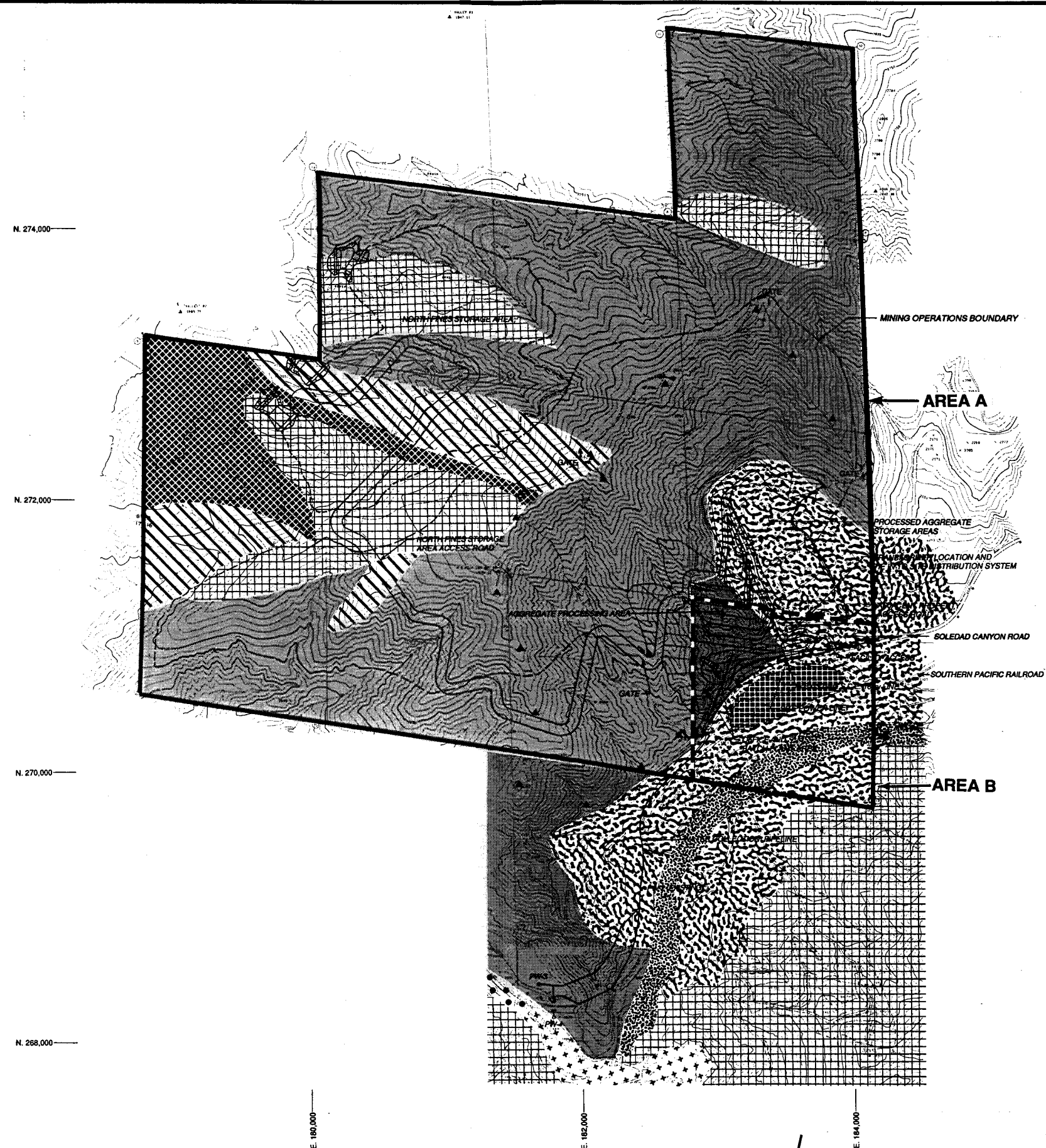


ESSENTIAL HABITAT FOR UNARMORED THREESPINE STICKLEBACK IN THE COUNTY OF LOS ANGELES

Figure 3.1.8-2

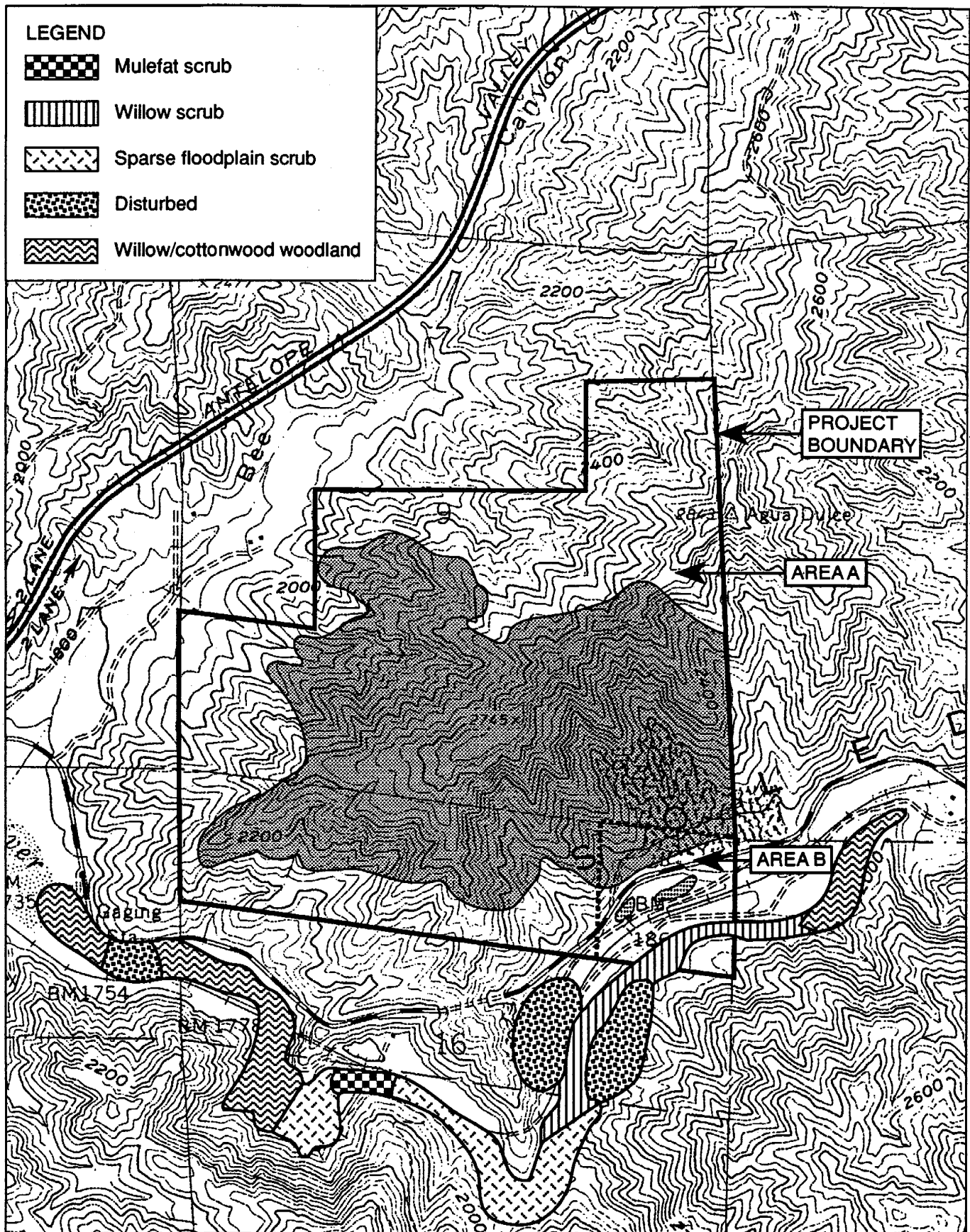
LEGEND

	Existing silt ponds/cottonwoods
	Sparse floodplain scrub
	Mulefat scrub
	Willow scrub
	Project Boundary
	Mixed chaparral/coastal sage scrub
	Coastal sage scrub
	Mixed chaparral
	Coastal sage scrub/semidesert chaparral
	Disturbed



Source: Environmental Solutions, 1992
File No. D-90450-CP002

VEGETATION MAP
Figure 3.1.8-3



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SOURCE: Chambers Group, Inc.

ADJACENT VEGETATION OF RIPARIAN CORRIDOR TO PROJECT SITE

Figure 3.1.8-4

Approximately 23 acres of riparian vegetation are present in the area adjacent to and downstream of the site.

Major botanical features of each of these communities are described below. It should be noted that the coastal sage scrub, semidesert chaparral, and mixed chaparral communities intergrade with one another across most of the site and do not necessarily conform to strict literature definitions in all respects. This complexity appears to be the result of a combination of highly variable topography and past disturbances by human activities. Figures 3.1.8-5 through 3.1.8-8 present photographs of the site from various locations. These photographs show the variability of the terrain and characteristic vegetation onsite and adjacent to the site.

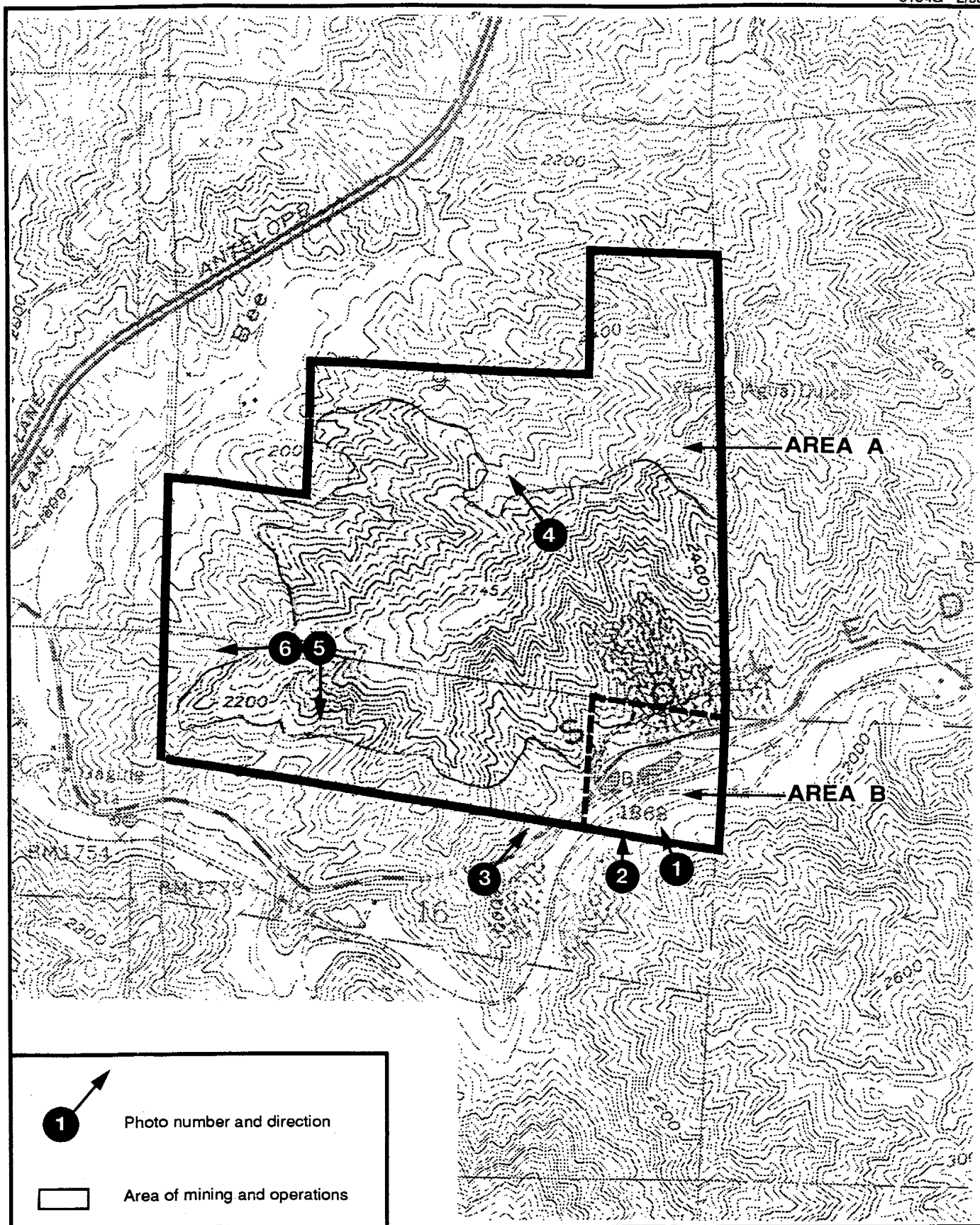
Appendix F1 provides a list of plant species observed during all surveys. This species list includes plants found onsite and in the river corridor adjacent to and downstream of the site.

Coastal Sage Scrub

This community consists of small-leaved shrubs that are typically less than 6 feet high. The species composition of this community in southern California varies from the coast to inland areas, with inland areas such as Soledad Canyon supporting a higher proportion of desert-adapted species relative to coastal areas. On the Project site, these species include brittlebush (*Encelia actonii*), beavertail cactus (*Opuntia basilaris* var. *basilaris*), interior flat-topped buckwheat (*Eriogonum fasciculatum* ssp. *foliolosum*), and thick-leaved yerba santa (*Eriodictyon crassifolium*). Additional species that occur onsite and are common to both coastal and inland types of coastal sage scrub include California buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), California sagebrush (*Artemisia californica*), and deerweed (*Lotus scoparius*). Coastal sage scrub intergrades with semidesert chaparral and mixed chaparral (described below) across most of the site and occurs as a distinct community only at the base of a drainage in the western portion of the parcel (Figure 3.1.8-3).

The coastal sage scrub community on the Project site as a whole includes several species that are characteristic of Riversidian sage scrub, a type of coastal sage scrub that is rapidly declining in abundance and has been recommended by the CNDDDB for consideration as a rare and sensitive habitat (Holland 1986). However, Riversidian sage scrub is defined as containing California sagebrush and California buckwheat, each attaining at least 20 percent cover. This value is not approached at any particular location on the parcel. Additional species that are characteristic of Riversidian sage scrub (e.g., brittlebush, thick-leaved yerba santa, deerweed, black sage [*Salvia mellifera*], white sage [*Salvia apiana*], our Lord's candle [*Yucca whipplei*]) do occur on the parcel as a whole, but at any particular location, several of these species are absent. Therefore, the coastal sage scrub on the Project site would not be defined strictly as Riversidian sage scrub.

Coastal sage scrub accounts for approximately 6 percent of the overall survey area and 2 percent of the area where sand and gravel mining would occur. Mixtures of coastal sage scrub elements and either semidesert chaparral or mixed chaparral elements (described below) account for the majority of the area where mining would occur.



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SOURCE: USGS 7.5
Agua Dulce, CA

KEY MAP FOR SITE PHOTOGRAPHS
Figure 3.1.8-5

Mixed Chaparral

The mixed chaparral community onsite is characterized by woody, leathery-leaved shrubs in high density. Dominant shrub species include common chamise (*Adenostoma fasciculatum*) and California inland scrub oak (*Quercus berberidifolia*). Additional woody species include California mountain mahogany (*Cercocarpus betuloides*), holly-leaved cherry (*Prunus ilicifolia*), and whitebark lilac (*Ceanothus leucodermis*). The absolute shrub cover in this community is approximately 35.9 percent, and the absolute herbaceous cover is approximately 61.3 percent based on transect data presented in Appendix F3. Nonnative herbaceous species account for approximately half of the herbaceous cover in the mixed chaparral community. True mixed chaparral occurs primarily on north-facing slopes south of the parcel across the Santa Clara River. Chaparral of relatively low diversity and dominated by California scrub oak occurs on north- and northeast-facing slopes on the west side of the parcel (Figure 3.1.8-3). This mixed chaparral community accounted for approximately 12 percent of the overall site surveyed and 12 percent of the area where sand and gravel mining operations would occur.

Mixed chaparral integrates with coastal sage scrub along the bases of the drainages in this area. The absolute cover of shrub species in the coastal sage scrub-mixed chaparral community is approximately 42 percent, and the absolute cover for herbaceous species is approximately 83 percent (see Appendix F3). Nonnative herbaceous species account for approximately 37 percent of the herbaceous cover in this community. Coastal sage scrub-mixed chaparral accounts for approximately 8 percent of the overall site surveyed and 8 percent of the area where sand and gravel mining operations would occur.

Coastal Sage Scrub/Semidesert Chaparral

Semidesert chaparral is defined as sharing many species in common with mixed chaparral but also including a relatively high proportion of California juniper (*Juniperus californica*) and our Lord's candle. On the parcel, juniper is not abundant except near the extreme north and northwestern boundaries and therefore cannot be considered a dominant species across the majority of the parcel. Observations of the relative abundances of species on the parcel as a whole suggest that the community is most accurately classified as a mixture of coastal sage scrub and semidesert chaparral. Buckwheat and other coastal sage scrub species are the dominant shrubs in most areas, with other semidesert chaparral species contributing relatively little cover. The exception is the northern portion of the parcel, where juniper, California sagebrush, black sage, and our Lord's candle are abundant. Other important components of semidesert chaparral, particularly manzanita (*Arctostaphylos* spp.), are sparse in this area. Over the site, California ephedra (*Ephedra californica*) occurs occasionally, and other semidesert chaparral species found onsite include beavertail cactus, California mountain mahogany, chamise, and bush poppy (*Dendromecon rigida*).

Absolute cover of shrub species in the coastal sage scrub-semidesert chaparral is approximately 17 percent, and absolute herbaceous cover is 72 percent based on transect data presented in Appendix F3. Shrub density of the community is substantially lower compared to mixed chaparral, allowing for a high diversity of herbaceous species. These include blue dicks (*Dichelostemma pulchella*), common golden-stars (*Bloomeria crocea*), common Turkish rugging

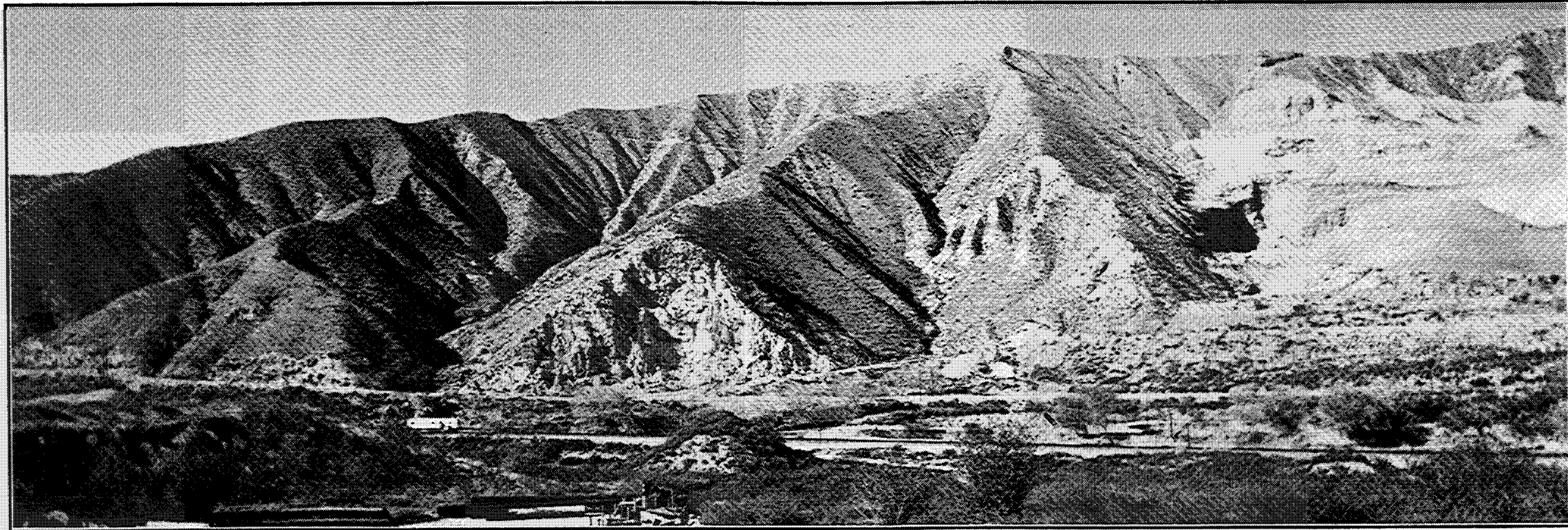


PHOTO 1 - South-central portion of site, looking northwest. C.A. Rasmussen mining facility and Soledad Canyon Road in foreground.

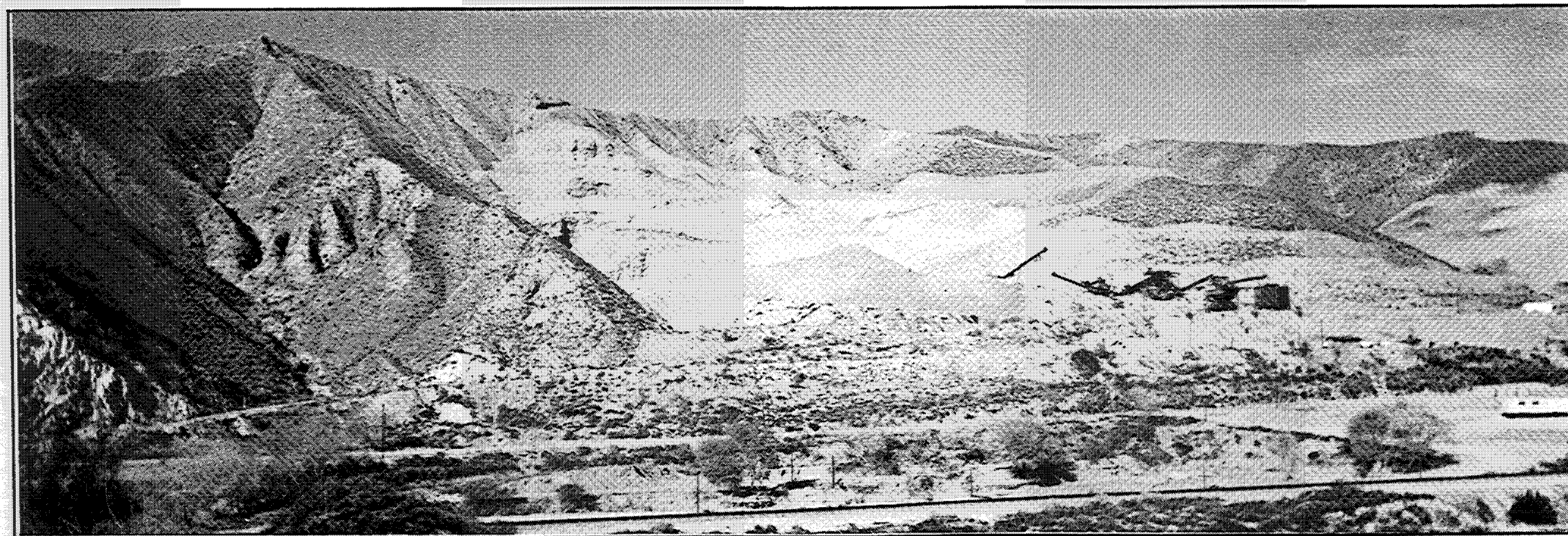


PHOTO 2 - Southeastern portion of site, looking north, showing existing mining operation. Southern Pacific Railroad in foreground.

EXISTING SITE PHOTOGRAPHS
Figure 3.1.8-6

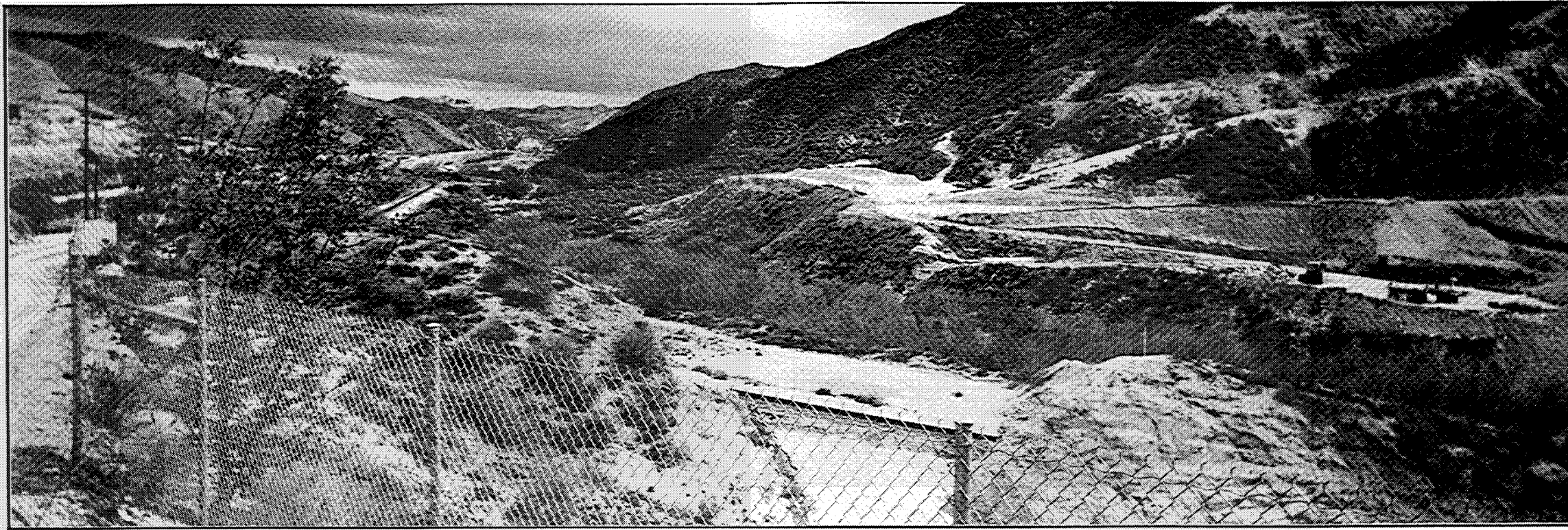


PHOTO 3 - Santa Clara Riverbed adjacent to site, looking northeast.



PHOTO 4 - Northern portion of site, looking northwest. Bee Canyon and Antelope Freeway in background.

EXISTING SITE PHOTOGRAPHS
Figure 3.1.8-7



PHOTO 5 - Central south-facing slopes, looking south. Railroad and Santa Clara Riverbed at lower right in photo.

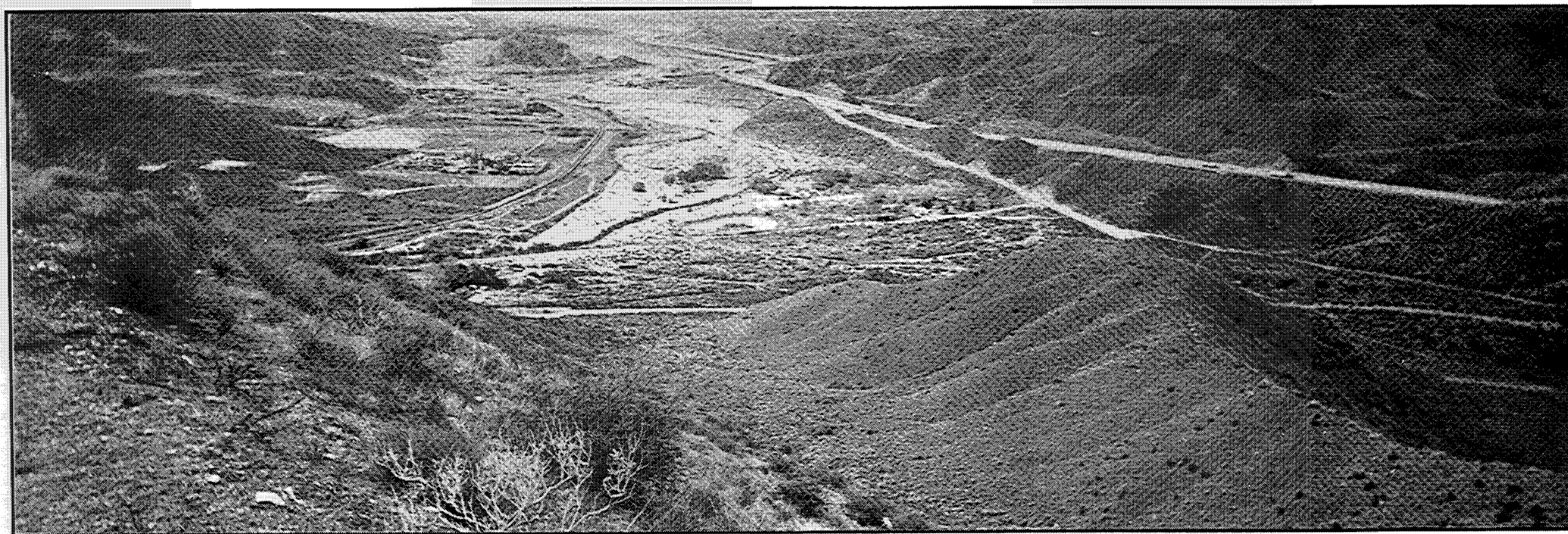


PHOTO 6 - Western portion of site, looking west. Soledad Canyon Road and Santa Clara Riverbed (offsite) in middle ground and background. Antelope Valley freeway at upper right in photo.

EXISTING SITE PHOTOGRAPHS
Figure 3.1.8-8

(*Chorizanthe staticoides*), club-haired mariposa lily (*Calochortus clavatus* var. *gracilis*), slender mariposa lily (*Calochortus clavatus* ssp. *clavatus*), crested needlegrass (*Achnatherum coronatum*), and ball gilia (*Gilia capitata*). However, nonnative herbaceous species account for approximately 68 percent of the herbaceous cover in this community. This semidesert chaparral community, mixed with coastal sage scrub, accounts for 63 percent of the vegetation over the whole Project area surveyed and 55 percent of the impact area where sand and gravel mining would occur.

Riparian Communities

The Santa Clara River floodplain adjacent to and downstream of the Project contain riparian vegetation communities. The two riparian communities that occur in the floodplain of the Santa Clara River are willow scrub and willow-cottonwood woodland. Both of these communities are recommended by the CNDDDB as sensitive plant communities (Holland 1986). These communities are part of the dynamic system of the river, and the density of the vegetation in this area follows the hydrologic variation of the region. Historical photos of the area indicate that the vegetation can be impacted from both flood and drought events of the Santa Clara River. Because of the productive nature of riparian habitats, these areas support a higher density and diversity of species than adjacent upland areas. This productivity also permits riparian communities to exhibit great regenerative power that often occurs in riparian habitats following flooding episodes. The following sections describe the conditions that span drought and flood flow events of the past 3 years.

Willow Scrub. This community is associated with the Santa Clara River, which bisects the southeastern corner of the Project in Area B (Figure 3.1.8-4). Dominant species include arroyo willow (*Salix lasiolepis*), lance-leaved willow (*Salix lucida* spp. *lasiandra*), and mulefat (*Baccharis salicifolia*). Most of the community on the site has been invaded by weeds including giant reed (*Arundo donax*), sweet-clover (*Melilotus officinalis*), alfalfa (*Medicago sativa*), and lamb's quarters (*Chenopodium album*). Native herbs include California mugwort (*Artemisia douglasiana*) and seep monkey flower (*Mimulus guttatus*). Density of vegetation is high and impenetrable in many locations. In wetter areas, cattails (*Typha latifolia*) also occur. Observations along the river since the 1992-1993 flood flows indicate that the willow scrub density has been reduced within the river channel.

Willow-Cottonwood Woodland. This community occurs upstream and downstream from the Project site along the Santa Clara River (Figure 3.1.8-4). Dominant species of this community include western cottonwood (*Populus fremontii* ssp. *fremontii*) as well as other species associated with the willow woodland described previously.

In addition, isolated cottonwoods exist in two areas. A small stand of western cottonwood occurs in association with the silt ponds near Soledad Canyon Road (Figure 3.1.8-4). A very small stand was also observed at a spring near the top of a steep drainage near the southern boundary of the Area A. The trees appeared to be in poor health, and no seedlings were observed.

Wetlands and Other Jurisdictional Considerations

The Project site has been surveyed for presence of wetland habitats and jurisdictional waters that are under the purview of the Corps. Three ephemeral drainages exist on the site that potentially meet the criteria for "waters of the U.S."

In addition, the Santa Clara River through the Project site would meet the criteria for waters of the U.S. Discharge of material into any of these drainages may require a permit from the Corps.

Sensitive Plant Species

Table 3.1.8-1 lists the sensitive plant species that were considered to have potential to occur onsite. No federal- or state-listed species were observed on the Project site. However, a large population (1,000+ individuals) of slender-horned spineflower (*Dodecahema leptoceras*), a state- and federal-listed endangered species, was observed on benches within the alluvial wash in Bee Canyon well outside the Project boundary.

Three former Federal Candidate Species were found onsite: Peirson's morning glory (*Calystegia peirsonii*), slender mariposa lily, and Plummer's mariposa lily (*Calochortus plummerae*). In addition, club-haired mariposa lily, a species that has been recommended by the CNPS for evaluation for protection under CEQA, was observed onsite. During earlier surveys in 1993/94, Peirson's morning glory, slender mariposa lily, and club-haired mariposa lily were located within coastal sage scrub at the base of slopes and in drainages southwest of Bee Canyon and approximately 1,500 feet east of Soledad Canyon Road. However, after a late 1994 fire over the north side of the project site, these three species were found in several locations on the northwest-facing slopes and in burned coastal sage scrub/semidesert chaparral, and one small population of Plummer's mariposa lily was found near the top of the ridge on the northwest-facing side. All of these species, especially Peirson's morning glory, adapt to disturbance, such as fire, and might be expected to be among the herbaceous plant species to develop after a fire in this community in this region.

Observations during the surveys indicated that none of the summer-flowering sensitive species listed in Table 3.1.8-1 and reported as occurring in USGS quadrangles for areas adjacent to the quadrangle containing the project site occur onsite. A population of Nevin's barberry (*Berberis nevinii*) occurs in Big Tujunga Wash, approximately 10 miles south of Soledad Canyon on the south side of the San Gabriel Mountains and in habitat similar to that which occurs on the parcel. However, this species was not observed onsite.

General Wildlife

Appendix F2 provides a list of wildlife species noted or expected to occur within the boundaries of the site and the adjacent river corridor. In general, the undeveloped hills and canyons of the site serve as open-space wildlife habitats that would be expected to support wildlife species typical of the coastal sage scrub and chaparral communities. The presence of the adjacent riparian woodlands increases the dimension and richness of the habitats.

Table 3.1.8-1

**ENDANGERED, THREATENED, AND SENSITIVE PLANT SPECIES CONSIDERED
TO HAVE SOME POTENTIAL TO OCCUR ON THE PROJECT SITE AND SURVEY RESULTS**

Species/Family/Common Name	Status	Habitat/Flowering Time	Survey Results
KNOWN OCCURRENCES IN USGS 7.5-MINUTE QUADRANGLE CONTAINING PROJECT SITE (AGUA DULCE)			
<i>Dodechema leptoceras</i> POLYGONACEAE slender-horned spineflower	FED: FE STATE: CE CNPS: 1B	Alluvial fan in chaparral and coastal sage scrub/ April-June	Population of 1,000+ on benches in alluvial wash in Bee Canyon, well outside Project boundary.
KNOWN OCCURRENCES IN USGS 7.5-MINUTE QUADRANGLES ADJACENT TO PROJECT SITE QUADRANGLE (SUNLAND, ACTON, MINT CANYON, and SLEEPY VALLEY), IN HABITATS SIMILAR TO THAT ON PROJECT SITE AND OBSERVED ON PROJECT SITE DURING SURVEYS			
<i>Calochortus clavatus</i> var. <i>gracilis</i> LILIACEAE slender mariposa lily	FED: S* STATE: none CNPS: 1B	Shaded foothill canyons; chaparral/ March	Small population (<20) at base of slopes SW of Bee Canyon and approximately 1,500 ft. from Soledad Canyon Rd.; scattered on NW-facing slopes in coastal sage scrub/desert chaparral.
<i>Calochortus plummerae</i> LILIACEAE Plummer's mariposa lily	FED: S* STATE: none CNPS: 1B	Dry rocky (granitic) areas; chaparral and coastal sage scrub/May-July	Small population found near top of ridge on NW-facing slope in coastal sage scrub/desert chaparral.
<i>Calyptegia peirsonii</i> CONVOLVULACEAE Peirson's morning glory	FED: S* STATE: none CNPS: 4	Rocky slopes; coastal sage scrub and chaparral/May-June	A sprawling population of 100+ on low slopes and drainages SW of Bee Canyon and approximately 1,500 ft. from Soledad Canyon Rd.; scattered on NW-facing slopes in coastal sage scrub/desert chaparral.
SENSITIVE PLANT SPECIES WITHOUT RECORDED SITINGS IN PROJECT AREA OR ADJACENT QUADRANGLES, BUT OBSERVED ON THE PROJECT SITE DURING SURVEY			
<i>Calochortus clavatus</i> ssp. <i>clavatus</i> LILIACEAE club-haired mariposa lily	FED: none STATE: none CNPS: 4, CEQA?	Serpentine soils; chaparral and valley grasslands/June	Small population (<30) at base of slopes SW of Bee Canyon and approximately 1,500 ft. from Soledad Canyon Rd.; scattered on NW-facing slopes in coastal sage scrub/desert chaparral growing with Peirson's morning glory and slender mariposa lily.
KNOWN OCCURRENCES IN USGS 7.5-MINUTE QUADRANGLES ADJACENT TO PROJECT SITE QUADRANGLE, IN HABITATS SIMILAR TO THAT ON PROJECT SITE BUT NOT OBSERVED ON PROJECT SITE DURING SURVEYS			
<i>Berberis nevadensis</i> BERBERIDACEAE Nevin's barberry	FED: PE STATE: CE CNPS: 1B	Sandy and gravelly soils in washes; chaparral/ March-April	No species observed.
<i>Chorizanthe parryi</i> var. <i>fernandina</i> POLYGONACEAE San Fernando Valley spineflower	FED: S* STATE: none CNPS: 1A	Sandy areas; coastal sage scrub and chaparral/April-June	

Table 3.1.8-1

**ENGANDERED, THREATENED, AND SENSITIVE PLANT SPECIES CONSIDERED
TO HAVE SOME POTENTIAL TO OCCUR ON THE PROJECT SITE AND SURVEY RESULTS (CONTINUED)**

Species/Family/Common Name	Status	Habitat/Flowering Time	Survey Results
<i>Malacothamnus davidsonii</i> MALVACEAE Davidson's bush mallow	FED: S* STATE: none CNPS: 1B	Sandy washes and flats; coastal sage scrub, chaparral and riparian woodlands/ June-September	No species observed.
<i>Opuntia basilaris</i> var. <i>bracyclada</i> CACTACEAE short-joint beavertail	FED: S* STATE: none CNPS: 1B	Slopes of San Gabriel and San Bernardino Mtns.; chaparral/April-June	
SENSITIVE PLANT SPECIES KNOWN TO OCCUR IN LOS ANGELES COUNTY, IN HABITAT SIMILAR TO THAT ON OR NEAR PROJECT SITE BUT NOT OBSERVED DURING SURVEYS			
<i>Androsace elongata</i> ssp. <i>acuta</i> PRIMULACEAE California androsace	FED: none STATE: none CNPS: 4	Dry grassy slopes; coastal sage scrub, chaparral and oak woodlands/ March-June	No species observed.
<i>Astragalus brauntonii</i> FABACEAE Braunton's milkvetch	FED: PE STATE: none CNPS: 1B	Disturbed areas and recent burns; coastal sage scrub, chaparral and valley grasslands/ March-July	
<i>Brodiaea filifolia</i> LILIACEAE thread-leaf brodiaea	FED: C STATE: CE CNPS: 1B	Grassland and vernal pools in heavy clay soils; coastal sage scrub and chaparral/ March-June	
<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i> CRASSULACEAE Santa Monica Mtns. dudleya	FED: PT STATE: none CNPS: 1B	Rocky outcrops and slopes, in shade; coastal sage scrub and chaparral/ March-May	
<i>Dudleya densiflora</i> CRASSULACEAE San Gabriel Mtns. dudleya	FED: C STATE: none CNPS: 1B	Cliffs and canyon walls (granitic); chaparral and coastal sage scrub/ March-July	
<i>Dudleya multicaulis</i> CRASSULACEAE many-stemmed dudleya	FED: S* STATE: none CNPS: 1B	Heavy often clayey soils and rocky outcrops; coastal sage scrub and chaparral/ May-July	
<i>Harpagonella palmeri</i> BORAGINACEAE Palmer's grapplinghook	FED: S* STATE: none CNPS: 2	Dry slopes and mesas, in clay soils; chaparral, coastal sage scrub, and grassland/ March-April	
<i>Lepechinia fragrans</i> LAMIACEAE fragrant pitcher sage	FED: none STATE: none CNPS: 4	In canyons; chaparral/ March-May	

Table 3.1.8-1

**ENGANDERED, THREATENED, AND SENSITIVE PLANT SPECIES CONSIDERED
TO HAVE SOME POTENTIAL TO OCCUR ON THE PROJECT SITE AND SURVEY RESULTS (CONTINUED)**

Species/Family/Common Name	Status	Habitat/Flowering Time	Survey Results
<i>Monardella viridis</i> ssp. <i>saxicola</i> LAMIACEAE rock monardella	FED: S** STATE: none CNPS: 4	Dry rocky areas; chaparral and yellow pine forest/ June-September	No species observed.
<i>Perideridia pringlei</i> APIACEAE Pringle's yampah	FED: S** STATE: none CNPS: 4	Grassy slopes and serpentine outcrops; chaparral, coastal sage scrub and cismontane woodland/ April-July	
<i>Ribes divaricans</i> var. <i>parishii</i> GROSSULARIACEAE Parish's gooseberry	FED: S* STATE: none CNPS: 1B	Willow thickets; riparian woodlands/ March-April	
STATUS CODES:			
<u>Federal:</u>			
FE = Federally endangered			
PE = Federally proposed, endangered			
PT = Federally proposed, threatened			
C = Candidate Species, formerly known as Category 1 Candidate (Federal Register, Vol. 61, No. 40, February 28, 1996)			
S* = The USFWS has discontinued the designation of Category 2 Species as candidates pursuant to the Notice of Review published in the Federal Register (Vol. 61, No. 40) on February 28, 1996.			
** = The USFWS has discontinued the designation of Category 3 Species as candidates pursuant to the Notice of Review published in the Federal Register (Vol. 61, No. 40) on February 28, 1996.			
<u>State:</u>			
CE = State-listed, endangered			
<u>CNPS:</u>			
1A = Plants presumed extinct in California			
1B = Plants rare, threatened, or endangered in California and elsewhere			
2 = Plants rare, threatened, or endangered in California but more common elsewhere			
4 = Plants of limited distribution; a watch list			
CEQA? = A plant recommended by CNPS for evaluation for protection under the CEQA			
<u>Databases Searched:</u>			
CNDDDB; Agua Dulce, Sleepy Valley, Acton, Mint Canyon, and Sunland USGS 7.5-minute quadrangles searched (1994)			
CNPS Electronic Inventory; Agua Dulce, Sleepy Valley, Acton, Mint Canyon, and Sunland USGS 7.5-minute quadrangles searched, and Los Angeles County (1994)			
Nomenclature per Hickman 1993.			

The chaparral and coastal sage scrub community can support a variety of wildlife because of the type of cover it provides and the diversity of plant species present in these communities. Some of the more common reptiles found in coastal sage scrub are gopher snake (*Pituophis melanoleucus*), common kingsnake (*Lampropeltis getulus*), western rattlesnake (*Crotalus viridis*), western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), and western skink (*Eumeces skiltonianus*). Many birds, such as California towhee (*Pipilo crissalis*), California thrasher (*Toxostoma redivivum*), bushtit (*Psaltiriparus minimus*), and scrub jay (*Aphelocoma coerulescens*) use this community for nesting and foraging. Depending on the shrub cover, raptors can be found foraging in sparse shrub. Some of the small mammals that commonly occur in the coastal sage scrub community are pacific kangaroo rat (*Dipodomys agilis*), dusky-footed woodrat (*Neotoma fuscipes*), desert woodrat (*Neotoma lepida*), San Diego pocket mouse (*Perognathus longimembris*), deer mouse (*Peromyscus maniculatus*), and valley pocket gopher (*Thomomys bottae*). Two species of rabbits, the desert cottontail (*Sylvilagus audubonii*) and brush rabbit (*Sylvilagus bachmani*), also use coastal sage scrub. In addition, spotted skunk (*Spilogale gracilis*), striped skunk (*Mephitis*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), and bobcat (*Lynx rufus*) may also be found in this community. Mule deer (*Odocoileus hemionus*) use this community for browse and cover, especially if riparian woodlands are nearby. An occasional mountain lion (*Felis concolor*) may enter this community to prey upon the deer population.

Mixed chaparral and semidesert chaparral share many faunal components with coastal sage scrub. The majority of the species mentioned above occasionally frequent the chaparral communities. Some of the species more characteristic of chaparral than other species include rosy boa (*Lichanura trivirgata*), striped racer (*Masticophis lateralis*), night snake (*Hypsiglena torquata*), California mouse (*Peromyscus californicus*), brush mouse (*Peromyscus boyleyi*), California pocket mouse (*Perognathus californicus*), wrentit (*Chamaea fasciata*), California quail (*Callipepla californica*), rufous-sided towhee (*Pipilo erythrophthalmus*), rufous-crowned sparrow (*Aimophila ruficeps*), and black-chinned sparrow (*Spizella atrogularis*). Although these species are not restricted to chaparral, they are perhaps most often found there.

The Santa Clara River is a major regional resource for wildlife. Riparian habitats along the river bottom provide surface water and a more structurally complex vegetation for wildlife. Amphibians, including several species of toads, frogs, and salamanders, are generally abundant in the riparian community. In addition, many of the reptiles present in the other vegetation communities also frequent the riparian woodland. One reptile species, the two-striped garter snake (*Thamnophis hammondi*), is largely restricted to habitats with permanent fresh water such as along streams with rocky beds bordered by willows or other streamside growth.

Sixty-one bird species were observed along the Santa Clara River between the portion of the riverbed adjacent to the Project site and the River's End Trailer Park during the wildlife surveys (see Appendix F2). The most frequently observed species were the song sparrow (*Melospiza melodia*) and house finch (*Carpodacus mexicanus*) followed by scrub jay, black phoebe (*Sayornis nigricans*), European starling (*Sturnus vulgaris*), and lesser goldfinch (*Spinus psaltria*). As discussed in the following section on sensitive wildlife species, the riparian habitat in this portion of the Santa Clara River channel would be appropriate for the endangered least Bell's vireo.

However, no vireos were seen during our surveys, and no response was received by playing tapes of the vireo's song.

Nearly all of the bird species found in adjacent habitats also frequent riparian areas at some point in time. Some of the more common types of birds found here are hummingbirds, vireos, flycatchers, warblers, and finches. Many migrating birds use this habitat for cover and as feeding areas as they move through in the spring and fall. The red-shouldered hawk is generally confined to oak and riparian woodlands. Other species of hawks, falcons, kites, owls, and doves specifically require woodland situations for nesting and perching.

Mammals observed in the Project area and the immediate surrounding area included raccoon (*Procyon lotor*), coyote, gray fox, bobcat, California ground squirrel (*Spermophilus beecheyi*), valley pocket gopher, and dusky-footed woodrat. Raccoon and coyote tracks were observed within the riparian habitat on nearly every survey. No sign of mule deer was observed in the riparian habitat during the surveys; however, they have been reported in habitat upstream from the Project site (Ingrid Elsel Associates 1991). With the exception of some of the smaller rodent species that are less mobile, the mammals occurring on the Project site are likely to use the adjacent riparian habitat during the course of their daily and seasonal activities.

Wildlife Movement Corridors

As mentioned previously in Section 3.1.8.3, the Santa Clara River in the vicinity of the site and its tributaries (Agua Dulce Creek and Bear Creek) provide a wildlife movement corridor between north and south sections of the Angeles National Forest. The steep topography of the south side of the site limits the usefulness of the site ravines for wildlife movement. Although coyotes were found to use ridge trails and roadways on the site, no main movement corridor exists onsite. It is much more likely that wildlife movement occurs through Bee Canyon, Aqua Dulce Creek, Bear Creek, and Soledad Canyon.

Sensitive Wildlife Species

Table 3.1.8-2 is a list of the state and federal endangered, threatened, candidate, or otherwise sensitive species that potentially occur within the survey area boundaries. A species was included on the list if:

- ▶ the site falls entirely or partially within its known distributional range, and/or
- ▶ the habitats generally associated with the species occur on, or in the vicinity of, the Project area.

Table 3.1.8-2 also includes an assessment of the probability of occurrence of each species both onsite and in the neighboring offsite riparian habitats associated with the Santa Clara River.

Table 3.1.8-2

**THREATENED, ENDANGERED, AND SENSITIVE WILDLIFE SPECIES CONSIDERED
TO HAVE SOME POTENTIAL TO OCCUR ONSITE AND IN NEIGHBORING OFFSITE HABITATS**

Species/Common Name	Federal Status	State Status	Habitat Association	Potential for Occurrence Onsite	Potential for Occurrence in Neighboring Habitats
<i>Plebulina emigdonis</i> San Emigdio blue butterfly	*	---	Southern California scrub habitats; immature stage host plants are <i>Atriplex</i> (saltbush) species	Low, no saltbush species onsite	Moderate
<i>Catostomus snyderianae</i> Santa Ana sucker	*	CSC	Clear freshwater rivers and streams adapted to large fluctuation in water availability	Known to occur	Known to occur
<i>Gasterosteus aculeatus williamsoni</i> unarmored threespine stickleback	E	E	Clear freshwater rivers and streams in the Los Angeles Basin; low-flow areas	Known to occur	Known to occur
<i>Gila orcutti</i> arroyo chub	*	CSC	Clear freshwater rivers and streams in coastal southern California; adapted to faster-flowing streams	Known to occur	Known to occur
<i>Bufo microscaphus californicus</i> Arroyo toad	E	CSC	Washes, streams, and arroyos in semiarid lands	Low	Moderate
<i>Rana aurora draytonii</i> California red-legged frog	FPE	CSC	Woodlands, grassland near permanent water with emergent vegetation	None	Moderate; ponds southwest of site
<i>Scaphiopus hammondi</i> western spadefoot	*	CSC	Semiarid drainages, grasslands, chaparral, and scrub; requires temporary pools in which to breed	Low-moderate	Moderate-high
<i>Phrynosoma coronatum blainvilliei</i> San Diego horned lizard	*	CSC	Friable sandy to gravel soils in coastal sage scrub and chaparral	Moderate	High
<i>Anniella pulchra pulchra</i> Silvery legless lizard ¹	FSC	CSC	Loose sandy soils under riparian, oak woodland and chaparral vegetation	Moderate to high	Moderate to high
<i>Cnemidophorus tigris multiscutatus</i> coastal western whiptail	*	CSC	Numerous habitats including grassland, sage scrub, and riparian	Moderate	Moderate
<i>Clemmys marmorata pallida</i> southwestern pond turtle	*	CSC	Streambeds, ponds, freshwater marshes, rivers, canals	None	Low
<i>Diadophis punctatus modestus</i> San Bernardino ringneck snake	*	---	Moist habitats, such as riparian woodlands	None	Low-Moderate

Table 3.1.8-2

THREATENED, ENDANGERED, AND SENSITIVE WILDLIFE SPECIES CONSIDERED
TO HAVE SOME POTENTIAL TO OCCUR ONSITE AND IN NEIGHBORING OFFSITE HABITATS (CONTINUED)

Species/Common Name	Federal Status	State Status	Habitat Association	Potential for Occurrence Onsite	Potential for Occurrence in Neighboring Habitats
<i>Lichanura trivirgata rosafusca</i> coastal rosy boa	*	---	Rocky shrublands, permanent or intermittent streams	Moderate	Moderate
<i>Salvadora hexalepis virgulata</i> coast patch-nosed snake	*	CSC	Rocky areas in grasslands, chaparral, and sagebrush	Low-moderate	Low
<i>Thamnophis hammondi</i> Two-striped garter snake ¹	FSC	CSC	Found in or near fresh water, often along streams with rocky beds and riparian growth	Moderate to high	Moderate to high
<i>Lampropeltis zonata parvirubra</i> San Bernardino mountain kingsnake ¹	FSC	CSC	Rocky, heavily vegetated habitats	Moderate to high	Moderate to high
<i>Aquila chrysaetos</i> golden eagle	EPA	CSC	Widespread forager; nests in cliff faces/escarpments and large trees	Known to occur, but no potential nesting areas onsite	Known to occur; few potential nesting sites, trees south of project area and rock outcrops east of the project
<i>Falco mexicanus</i> Prairie falcon ¹	---	CSC	Grasslands, savannahs, rangeland, agricultural fields, and desert scrub	Flyovers possible, but no potential nesting areas onsite	Known to occur
<i>Asio otus</i> Long-eared owl ¹	---	CSC	Riparian woodlands, groves, and planting of larger trees	Moderate to low	Moderate to high
<i>Accipiter cooperi</i> Cooper's hawk	---	CSC	Deciduous forests, streamside groves, open woodlands	Flyovers possible, but no potential nesting areas onsite	Moderate
<i>Accipiter striatus</i> sharp-shinned hawk	---	CSC	Woodland habitats	Flyovers possible, but no potential nesting areas onsite	Moderate
<i>Vireo bellii pusillus</i> least Bell's vireo	E	E	Riparian habitats with dense vegetation (e.g., willows)	None	Moderate
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	---	E	Riparian habitat (e.g., willows), orchards, woodlands	None	Moderate
<i>Poliopila californica</i> California gnatcatcher	T	---	Lowland coastal sage scrub	Low	Low
<i>Empidonax traillii eximius</i> southwestern willow flycatcher	E	E	Willow thickets/riparian	None	Moderate

Table 3.1.8-2

**THREATENED, ENDANGERED, AND SENSITIVE WILDLIFE SPECIES CONSIDERED
TO HAVE SOME POTENTIAL TO OCCUR ONSITE AND IN NEIGHBORING OFFSITE HABITATS (CONTINUED)**

Species/Common Name	Federal Status	State Status	Habitat Association	Potential for Occurrence Onsite	Potential for Occurrence in Neighboring Habitats
<i>Icteria virens</i> yellow-breasted chat	---	CSC	Willow woodlands/riparian	None	Moderate
<i>Eremophila alpestris actia</i> California horned lark ¹	---	CSC	Open, sparsely vegetated scrub habitats, grasslands, and other open habitats	Moderate to high	Moderate to high
<i>Lanius ludovicianus</i> Loggerhead shrike ¹	FSC	CSC	Prefers grasslands or open areas with scattered trees or other perch sites for foraging	Moderate to high	Moderate to high
<i>Aimophila ruficeps canescens</i> Southern California rufous-crowned sparrow ¹	FSC	CSC	Open scrub and chaparral habitats, moves into areas that have been burnt, steep, rocky areas within CSS and chaparral	Moderate to high	Moderate to high
<i>Amphispiza belli belli</i> Bell's sage sparrow ¹	FSC	CSC	Open, disturbed scrub habitat on steep, xeric slopes, dense, dry chamise chaparral and coastal slopes of CSS	Low to moderate	Low to moderate
<i>Dendroica petechia brewsteri</i> Yellow warbler ¹	---	CSC	Riparian woodlands, montane chaparral, open ponderosa pine, and mixed conifer habitats	Moderate	High
<i>Piranga rubra</i> Summer tanager ¹	---	CSC	Riparian groves dominated by cottonwoods	Low to moderate	High
<i>Spizella atrogularis</i> Black-chinned sparrow ¹	---	---	Brushy arid slopes in foothills and mountains	Low to moderate	Low to moderate
<i>Spizella Breweri</i> Brewer's sparrow ¹	---	---	Mountain meadows and sagebrush flats	Moderate	Moderate
<i>Carduelis Lawrencei</i> Lawrence's goldfinch ¹	---	---	Prefers dry interior foothills and mountain valleys	Moderate to high	Moderate to high
<i>Macronus californicus</i> California leafnose bat	*	CSC	Arid/semiarid habitat; roosts in caves, and old mines	None-low	Moderate (though few roosting sites)
<i>Euderma maculatum</i> spotted bat	*	CSC	Arid habitats; requires caves/old structures for roosts	None-low	Moderate (though few roosting sites)
<i>Plecotus townsendii townsendii</i> Townsend's western big-eared bat	*	CSC	Semiarid habitats; roosts in caves, mines, old buildings	None-low	Moderate (though few roosting sites)

Table 3.1.8-2

**THREATENED, ENDANGERED, AND SENSITIVE WILDLIFE SPECIES CONSIDERED
TO HAVE SOME POTENTIAL TO OCCUR ONSITE AND IN NEIGHBORING OFFSITE HABITATS (CONTINUED)**

Species/Common Name	Federal Status	State Status	Habitat Association	Potential for Occurrence Onsite	Potential for Occurrence in Neighboring Habitats
<i>Eumops perotis californicus</i> California mastiff bat	*	CSC	Semiarid habitats; roosts in buildings, cliff crevices, trees, tunnels	None-low	Moderate (though few roosting sites)
<i>Antrozous pallidus</i> pallid bat	---	CSC	Roosts in deep crevices, buildings, and bridges	None-low	Moderate (few roosting sites)
<i>Corynorhinus townsendii pallescens</i> Pale big-eared bat ¹	FSC	CSC	Semiarid habitats, roosts in caves, mines, old buildings	Moderate to high (foraging)	Moderate to high
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	*	CSC	Open prairies, grasslands, also in deserts, sparsely vegetated areas	Low	Low
<i>Onychomys torridus ramona</i> Southern grasshopper mouse ¹	FSC	CSC	Grasslands	Moderate to high	Moderate to high
<i>Bassarisicus astutus</i> Ringtail ¹	---	---	Chaparral, rocky ridges and cliffs near water	Low to moderate	Low to moderate
<i>Taxidea taxus</i> American badger ¹	---	---	Open grasslands and deserts	Low to moderate	Low to moderate

Note: ¹ This species has not been listed by the USFWS or CDFG as threatened or endangered. They may be considered sensitive because they may be regionally declining, regionally common but only occur locally in low numbers, or there may not be enough available information to determine if they are really common or if listing is warranted.

Federal Status
E = Endangered
T = Threatened
FPE = Taxa proposed to be listed as Endangered by the USFWS
C = Candidate Species, formerly known as Category 1 candidates (Federal Register, Vol. 61, No. 4, February 28, 1996)
* = The USFWS has discontinued the designation of Category 2 Species as candidates pursuant to the Notice of Review published in the Federal Register (Vol. 61, No. 40) on February 28, 1996.
EPA = Protected under Eagle Protection Act
FSC = Federal species of Special Concern (USFWS)

State Status
E = Listed as an Endangered species in the State of California
CSC = California Species of Special Concern (CDFG)

This assessment is based on the following criteria:

- ▶ **Low Probability**--No historical records exist of the species occurring in the Project area or its immediate vicinity AND the diagnostic habitats strongly associated with the species do not occur in the Project area or its immediate vicinity.
- ▶ **Moderate Probability**--Either a historical record exists of the species occurring in the immediate vicinity of the Project area OR the diagnostic habitats associated with the species occur in the Project area or its immediate vicinity.
- ▶ **High Probability**--Both a historical record exists of the species occurring in the Project area or its immediate vicinity AND the diagnostic habitats strongly associated with the species occur in the Project area or its immediate vicinity.
- ▶ **Species Present**--The species was observed in the Project area at the time of the survey.

All state- and federal-listed wildlife with some potential of occurrence in the Project area or its immediate vicinity are discussed in detail below. Included below are all sensitive wildlife species not formally listed but with a high probability for occurrence or known to occur in or near the Project area. Species listed in the table for which diagnostic habitats were not found onsite are not discussed further.

San Emigdio Blue

The San Emigdio blue butterfly (*Plebulina emigdionis*) has a low probability of occurring onsite, except as an occasional visitor. The larval host plant (saltbush) of this species also does not occur onsite. This species was not observed onsite or in adjacent areas during a butterfly survey. The species has a moderate potential for occurring in neighboring habitats, and it is known to occur in the Angeles National Forest. The San Emigdio blue was formerly designated as a Federal Candidate 2 Species. The USFWS has discontinued that designation (Federal Register, Vol. 61, No. 40, February 1996). The USFWS remains concerned about these species and will continue to monitor the status of these species through the CNDDDB and other available sources of information.

San Diego Coast Horned Lizard

The San Diego coast horned lizard (*Phrynosoma coronatum blainvillei*) is found in fine soils in a variety of plant associations including coastal sage scrub, grassland, and open chaparral habitats. This species was previously considered a candidate for endangered or threatened status by the USFWS (Category 2 Candidate) and is considered sensitive by other agencies. Habitat destruction caused by extensive urban and agricultural development is the major cause of the decline of this species. The CNDDDB documents sightings of this species in the Agua Dulce, Sunland, and Acton quadrangles (CDFG 1992). This species was reported sighted in Soledad Canyon 2 miles east of the Project site in 1980. Suitable physical habitat for this species occurs within the Project boundaries in the lower, sandy portions of the ravines on the north and northwest portions of the site, and in the floodplain of the Santa Clara River. However, where

suitable friable soils were present onsite, harvester ants, the primary food item of the horned lizard, were missing. San Diego coast horned lizards were not found onsite during a specific survey for them conducted on March 30, 1995, nor were they observed during previous site surveys.

Southwestern Pond Turtle

The southwestern pond turtle (*Clemmys marmorata pallida*) is found in ponds, reservoirs, and seasonal standing or slow-moving water. No pond turtle habitat is present within the mining area for the Project; however, marginal habitat is present downstream of the Project site in the Santa Clara River. This species was previously considered a Category 2 Federal Candidate for consideration for listing and is a California Species of Special Concern (CSC), a designation used by the CDFG to signify taxa that warrant monitoring because of population declines. During stickleback habitat monitoring surveys for the past 3 years, southwestern pond turtles were never observed. Specific surveys that included trapping for the turtles were conducted in July 1994, and it was determined that no southwestern pond turtles are present in this stretch of the Santa Clara River.

Coastal Rosy Boa

The coastal rosy boa (*Lichanura trivirgata rosafusca*) is found in rocky shrublands near permanent or intermittent streams. The habitat is made up of large, boulder-sized rocks or rock outcrops that provide sheltering crevices as well as basking surfaces. The snakes forage in the shrublands adjacent to these rocky areas. The coastal rosy boa was previously designated a Category 2 Federal Candidate for consideration for listing. Recently, a taxonomic revision has been proposed for this species (Spiteri 1993). According to the taxonomic revision, the sensitive coastal rosy boa occurs only in Baja California, Mexico and as far north as San Diego County, while the more common rosy boa has a larger distribution throughout southern California. However, this taxonomic revision has not yet been accepted by USFWS; therefore, for purposes of this EIR, the range of the sensitive coastal rosy boa is still considered to encompass the Project site. Coastal rosy boa habitat surveys of the site resulted in very few areas with rocky outcrops or boulders. The majority of the site is composed of a gravelly substrate on a steep topography. Suitable habitat occurs only at the base of three ravines on the south side of the project site, just off of Soledad Canyon Road. One of these ravines is within the impact area of the mining operation. It is unlikely that any viable population occurs in this limited area.

Coast Patch-Nosed Snake

The coast patch-nosed snake (*Salvadora hexalepis virgulata*) is found in rocky areas in grasslands, chaparral, and sagebrush communities. The species was previously designated a Category 2 Federal Candidate for consideration for listing and is a CSC. Coast patch nose habitat surveys of the site resulted in very few areas with suitable rocky outcrops or boulders. As discussed above for the coastal rosy boa, the majority of the site is composed of a gravelly substrate on a steep topography. Suitable rocky habitat for the coast patch-nosed snake occurs only at the base of three ravines on the south side of the Project site, just off of Soledad Canyon

Road. One of these ravines is within the impact area of the mining operation. It is unlikely that any viable population occurs in this limited area.

Western Spadefoot Toad

The western spadefoot toad (*Scaphiopus hammondi*) inhabits semiarid grasslands, chaparral, and scrubland. The toad requires temporary pools to breed. Presently, this species has no federal status and is a CSC. Because of the steepness of the site, few areas in the operations area would support temporary pools for the toad to use. Most water infiltrates the gravelly substrate or runs off in the narrow ravines found across the site; thus, it is unlikely that the toad occurs onsite. The existing silt ponds south of Soledad Canyon Road could be suitable habitat; however, these ponds also support the voracious African clawed frog.

Arroyo Toad

The arroyo toad (*Bufo microscaphus californicus*) has been listed as a Federal Endangered Species by the USFWS (Federal Register, Vol. 59, December 16, 1994). It may be observed along washes, streams, and arroyos in semiarid parts of the southwest, feeding primarily on beetles (juveniles feed on ants [Sweet and Jennings 1992]). The project site has no potential habitat for this species. The toad could occur in the Santa Clara River and silt ponds south of the project site. However, the silt ponds south of the Project as well as Agua Dulce Creek east of the Project support an abundance of the nonnative African clawed frog, which is believed to be a heavy predator on the arroyo toad, and may prevent this species from occurring in the area.

California Red-Legged Frog

The California red-legged frog (*Rana aurora draytoni*) has no potential of occurring onsite due to a lack of riparian habitat onsite. This species has recently been proposed for Endangered status by the USFWS and is currently a CSC. This species has a moderate potential to occur in neighboring riparian habitats of the Santa Clara River. However, as mentioned previously, the presence of the nonnative African clawed frog in the riparian habitats may prevent this species from occurring in this area.

Coastal Western Whiptail

The coastal western whiptail lizard (*Cnemidophorus tigris multiscutatus*) is a subspecies of the western whiptail species. This species is known to occur in a variety of habitats throughout the western United States, from coniferous forests to creosote scrub, and is often associated with disturbed areas (McCoy 1965; Pianka 1970; Maya and Malone 1989). No coastal western whiptails were observed during surveys of the project area; however, this species has a moderate potential to occur. The actual subspecies of this lizard that resides in this region may not be the sensitive coastal western whiptail because the Project area is in the northernmost portion of its range. This sensitive subspecies was previously listed as a Federal Candidate 2 and is a CSC.

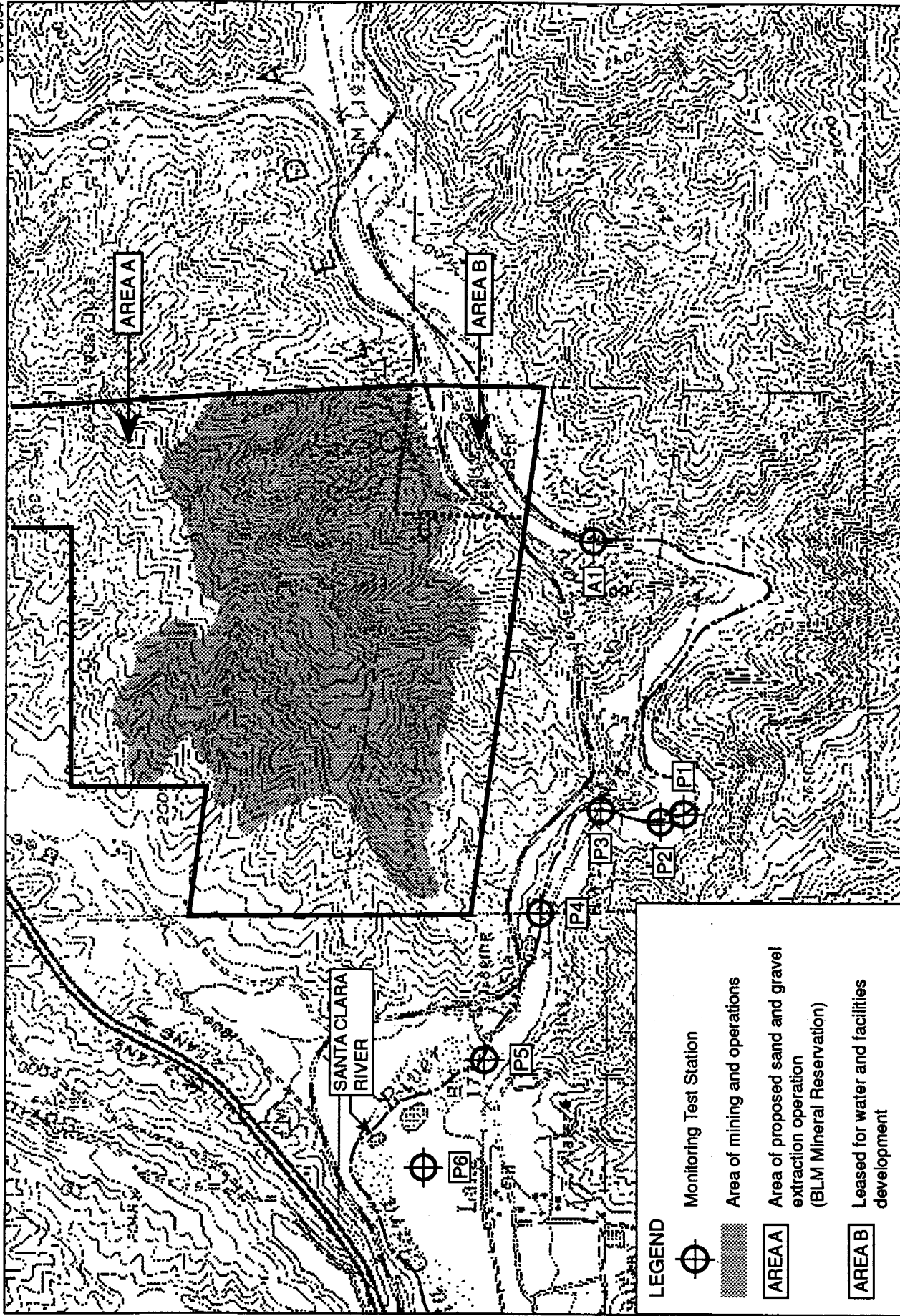
Unarmored Threespine Stickleback

The unarmored threespine stickleback is a subspecies of a species found throughout the Northern Hemisphere. It is a small (< 6 cm) freshwater fish with three conspicuous dorsal spines and a varying number of lateral plates, depending on the subspecies. The unarmored subspecies was once common but largely restricted to the Los Angeles region. Ongoing habitat destruction and possibly the introduction of nonnative fish species have led to its decline. Currently, the only recognized populations of this subspecies are confined to the headwaters of the Santa Clara River and its tributaries, the San Antonio Creek drainage, and possibly Honda Creek on Vandenberg Air Force Base in Santa Barbara County (USFWS 1985). It is currently listed as a State and Federal Endangered Species.

A series of surveys for the unarmored threespine stickleback was conducted in 1990 (Chambers Group 1991b) and in subsequent months in 1992 and 1993 (see Appendix F5). In addition, biological resources have been analyzed through a federal Biological Assessment (Chambers Group 1996), presented in Appendix F11. These surveys and assessments included establishing six permanent monitoring stations along the Santa Clara River drainage between the proposed quarry site and a location just downstream from the existing River's End Trailer Park.

Figure 3.1.8-9 shows the locations of the monitoring stations in relation to the Project. No monitoring station was established in Area B of the site because no stickleback habitat was identified during the initial studies and because it is upstream of the area to be developed for Project water. Data collected at each monitoring site included water quality, stream depth, stream width, and a habitat assessment with regard to sticklebacks. The results of these surveys indicate that this section of the river drainage consists of poor to moderately good stickleback habitat. Over the course of the surveys, permanently flowing habitat was present downstream of the trailer park from Stations P5 and P6, even during the dry season of drought years. This stretch of the river is the most consistently appropriate stickleback habitat in the study area. Between Stations P4 and P5, the river channel is usually altered each year after the winter flows subside and does not provide suitable habitat for the stickleback. From just upstream of Station P4 to Station A1, the river is seasonally dry.

Unarmored threespine sticklebacks, like most native southern California freshwater fishes, are adapted to the highly variable environmental conditions of southern California rivers and streams. These conditions include years of violent winter stormflow, such as occurred in the winter of 1993, in which the course of the streambed can be dramatically altered, as well as years of drought in which sections of stream become completely dry during the summer and fall. Sticklebacks can reproduce rapidly year round, whenever conditions are suitable. In general, sections of a streambed that are wet only seasonally following years of high or normal flow can thus have potential importance to a population because young produced in these areas during the spring can disperse to the sections of a stream that are permanently wet (Ray Bransfield, USFWS, personal communication).



**PERMANENT HABITAT QUALITY
SAMPLING SITES**
Figure 3.1.8-9

▲ N
Feet
0 1330
Source: Chambers Group, Inc.

Arroyo Chub

The arroyo chub (*Gila orcutti*) is a moderate-sized (<40 cm total length) minnow found in coastal stream and river systems in Los Angeles, Orange, and San Diego Counties. This species is adapted to changes in seasonal streams, particularly in the intermittent summer stage (McGinnis 1984). On May 7, 1992, Chambers Group aquatic biologists observed a possible arroyo chub at permanent monitoring Station 4 (Figure 3.1.8-9), although insufficient time was available for a complete identification. However, a 1982 USFWS survey and report for the unarmored threespine stickleback indicated the presence of the arroyo chub in various locations along the Santa Clara River including River's End Trailer Park in the vicinity of the site (USFWS 1982). This species is currently a CSC and was previously designated a Federal Category 2 Candidate Species.

Santa Ana Sucker

The Santa Ana sucker (*Catostomus platyrhynchus*) is the only native sucker in southwest California. It is found in the Santa Ana, San Gabriel, Santa Clara, and Santa Ana Rivers. This species is adapted to seasonally fluctuating habitats. Individuals of this species were observed during the surveys, and a 1982 U.S. Forest Service survey and report for the unarmored threespine stickleback indicated the presence of the Santa Ana sucker in various locations along the Santa Clara River upstream from River's End Trailer Park (USFWS 1982). This species is currently a CSC and was previously designated a Federal Category 2 Candidate Species.

Sensitive Raptors

Raptor species such as the golden eagle (*Aquila chrysaetos*), Cooper's hawk (*Accipiter cooperi*), and sharp-shinned hawk (*Accipiter striatus*) have a moderate potential to occur within the project area. Areas of suitable foraging habitat are located onsite, as well as a prey base (squirrels and rabbits). There is no nesting habitat for these species onsite; however, they may visit the riparian areas adjacent to the site as a water resource. These species are currently listed as a CSC.

Yellow-Breasted Chat

The yellow-breasted chat (*Icteria virens*) is a small, inconspicuous songbird that is, because of its shyness, more often heard and not seen. It prefers willow woodlands and riparian habitat. No suitable habitat exists for this species onsite, and some habitat may exist for this species in the vicinity. There is little to no potential for this species to occur onsite; however, there is a moderate potential for this species to occur in the more densely vegetated riparian areas along the Santa Clara River. The yellow-breasted chat is currently listed as a CSC.

Least Bell's Vireo

The least Bell's vireo is a State and Federal Endangered Species that usually inhabits willow riparian areas with a dense understory of mulefat. In addition, this species has been known to inhabit other types of vegetation such as sycamore woodland (John Griffith, personal

communication). Destruction of habitat and parasitism by the brown-headed cowbird are the major causes of the decline of this species. Because of the recent control efforts on the brown-headed cowbird, the least Bell's vireo population seems to be increasing (Griffith, personal communication). The species has been previously recorded in the lower Santa Clara River and in the San Fernando Valley. The riparian area in the Santa Clara River is considered potential habitat for this species. Surveys for this species were conducted near the Project site using a tape of the least Bell's vireo call, but no individuals were noted during the surveys. No CNDDDB records exist of this species occurring in the vicinity of the Project area, but records do exist for this species on an adjacent quadrangle in Mill Creek Canyon (Acton Quad) and along the Santa Clara River 3 to 4 miles east of Piru. The riparian woodland surveyed for this project is considered potential habitat for this species. The SP Railroad Company operates railroad tracks adjacent to this potential habitat. Currently, eight trains run on these tracks in a 24-hour period. This type of disturbance may lower the quality of this potential habitat for least Bell's vireo. However, these birds are known to nest in riparian habitat adjacent to roadways, and current noise standards for construction of projects near nesting vireos are 65 to 70 dBA. No individuals would be expected within the boundaries of the proposed sand and gravel extraction area.

California Yellow-Billed Cuckoo

The California yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a State Endangered Species that was previously on the Federal Category 3b list, which includes former candidate species that are considered taxonomically invalid or that do not meet the USFWS definition of a "species." Some taxonomic discrepancies currently exist regarding the California subspecies that need to be resolved by the USFWS before this species will again be considered a candidate species. Even though this species is no longer a Category 3b Candidate, the USFWS recommends that this species continue to be treated as a sensitive species because of its rare occurrence in California. The California yellow-billed cuckoo is a rare visitor and breeder in California that inhabits open woods, orchards, and streamside willow and alder groves. The range of this species does encompass the study area, but the habitat in the Santa Clara River is considered only marginal for this species. No recorded sightings of yellow-billed cuckoos in this area exist in the CNDDDB records. This species would not be expected to occur within the boundaries of the proposed sand and gravel extraction area.

Willow Flycatcher

The willow flycatcher (*Empidonax traillii*) is an average-sized (14.6-cm) flycatcher with a brownish-olive back contrasting with a pale throat and breast. This species was formerly a common summer resident throughout California, breeding wherever extensive willow thickets occurred. It has now been extirpated as a breeding bird from most of its California range. This species is now seriously threatened in a significant portion of its range in California, generally because of habitat loss and degradation and nest parasitism by brown-headed cowbirds. Over 10 years ago, this species was designated a CSC. It has also been included in the National Audubon Society's Blue List and is considered a Species of Special Concern by the USFWS. A petition was submitted to the CDFG to list the willow flycatcher as an endangered species pursuant to Section 2062 of the California Fish and Game Code. The willow flycatcher is now

listed as a Federal Endangered Species (Federal Register, Vol. 60, February 27, 1995). Suitable nesting habitat for this species does occur in the surrounding riparian habitat along the Santa Clara River. However, no individuals of this species were seen during the surveys, and this species is no longer considered to breed in the region. No CNDDB records exist of this species in the vicinity of the Santa Clara River. This species would not be expected to occur within the boundaries of the proposed sand and gravel extraction area.

Bats

Five sensitive bat species have a moderate potential to occur in neighboring habitats: the California leaf-nosed bat (*Macrotus californicus*, CSC), spotted bat (*Euderma maculatum*, CSC), Townsend's western big-eared bat (*Plecotus townsendii*, CSC), pallid bat (*Antrozous pallidus*, CSC), and the California mastiff bat (*Eumops perotis californicus*, CSC). Bats are nocturnal and chiefly insectivorous, taking flight at dusk and foraging at night until full. Roosting generally occurs in caves, mines, and rock crevices, none of which occur onsite. Bats will use water resources such as the Santa Clara River near the site as drinking and/or foraging sites.

3.1.8.4 Environmental Effects

Significance Criteria

Impacts on biological resources are considered significant if one or more of the following conditions would result from implementation of the Project:

- ▶ substantially affect a rare or endangered species of animal or plant or the habitat of the species;
- ▶ substantial loss of populations of a Federal Candidate, CSC, regionally rare, or otherwise sensitive species;
- ▶ loss of a regionally rare or sensitive habitat such as wetlands or oak woodlands;
- ▶ loss of a critical or limited resource used by a Federal or State Threatened or Endangered Species;
- ▶ substantial loss of species diversity in natural vegetation and wildlife habitat; and/or
- ▶ substantial interference with the movement of any resident or migratory fish or wildlife species.

Onsite and Adjacent Effects

General Vegetation. Approximately 187 acres of natural vegetation will be removed over the 20-year life of the Project from the site for mining and facilities. Table 3.1.8-3 lists the vegetation communities and the specific acres lost because of the Project. Removal of the

vegetation is considered a significant adverse impact because there will be substantial local loss of species diversity in the natural vegetation. However, designated open space area of the Angeles National Forest adjacent to the Project site consists of 651,874 acres, with approximately 250,000 acres located northwest of the Project site and 400,000 acres southeast of the Project site.

Table 3.1.8-3

**APPROXIMATE ACREAGES OF VEGETATION COMMUNITIES
WITHIN AREAS OF MINING AND FACILITIES OPERATIONS**

Project Areas	Vegetation Communities			
	Coastal Sage Scrub	Coastal Sage Scrub/ Semidesert Chaparral	Coastal Sage Scrub/ Mixed Chaparral	Mixed Chaparral
Mining* (Phase 1 and 2)	1	97	10	12
Facilities* and Haul Road	--	12	--	1
NFSA	3	19	10	22
Total Acres	4	128	20	35
* Approximately 45 additional acres of previously disturbed land will be used for mining and facilities.				

Two percent of this designated open space area (11,398 acres) is coastal sage scrub, and 28 percent (185,214 acres) is mixed and semidesert chaparral. The Project will impact 4 acres of coastal sage scrub and 183 acres of coastal sage scrub-semidesert chaparral, coastal sage scrub-mixed chaparral, and mixed chaparral over the period of mining. The 4 acres of coastal scrub that will be impacted by the Project represent approximately 0.03 percent of the distribution of this community as compared to the regionally designated open space of the Angeles National Forest. The 183 acres of coastal sage scrub-semidesert chaparral, coastal sage scrub-mixed chaparral, and mixed chaparral represent approximately 0.1 percent of the distribution of these communities as compared to the regionally designated open space in the Angeles National Forest. This loss of natural vegetation is considered a potentially significant adverse impact (see Mitigation Measure B1).

The Project plan includes reclamation and revegetation of the site, both concurrently during the Project and at the end of the Project. Although impacts will occur to natural plant communities during mining, the site will be revegetated with species presently occurring onsite. Because mining will occur in stages, revegetation will be concurrent as mining proceeds from one area to another onsite. By mining and revegetating in stages, habitat will be maintained onsite during all phases of the project, providing refuge for flora and fauna. Additionally, 45 acres onsite that are presently disturbed from previous mining operations and have limited habitat value will be revegetated at the termination of the Project to provide natural habitat. Implementation of the revegetation plan and performance standards described in Section 2.2 will provide for reclamation of the site and establishment of self-sustaining vegetation using plant species and

plant associations similar to those presently existing onsite. Therefore, the significant adverse impacts on vegetation from Project implementation are reduced to less-than-significant levels.

Sensitive Plants. Populations of Peirson's morning glory, slender mariposa lily, and club-haired mariposa lily were originally discovered at the base of slopes in the western portion of the Project site, but outside the projected impact zone on the Project parcel, and no impact on these populations was expected. Potential for impact could develop during the final placement of desilting/debris basin slated for this general area. However, after a 1994 fire over the north side of the Project site, these three species, which are fire or disturbance followers, were found within the areas of the fines storage. Additionally, a small population of Plummer's mariposa lily was discovered after the fire. Individuals of these sensitive plant species will be impacted by the Project during placement of the fines on the north side of the Project area (see Mitigation Measure B2).

Although a population of slender-horned spineflower does occur in the Bee Canyon area north of the western portion of the project site, the population is well away from the Project's impact zone. Therefore, no direct impact on this population will occur. Runoff from the Project will be controlled as described in Section 3.1.3. Desilting/debris basins will be installed to collect debris, sediment and storm water runoff from the site up to the 50-year storm event. In large storm events and whenever the basin is full, water will be discharged from the basin at the rate it is received. During lesser storm events, perforated drain pipes will allow the basin to drain continuously at a rate equal to the contents of the entire basin over a 40-hour period. During this period, up to 80 percent of the sediment will be retained in the basins. Some sediment will be present in the basin discharge, however sediment is also present in the natural discharge. Normal runoff from the north side of the Project site will continue to flow into Bee Canyon after the sediment and debris are removed from the debris/desilting basins. Therefore, no impact on the spineflower population will occur from the Project because the overall runoff pattern from the site will not be changed, but Project-generated debris and silt will be retained onsite.

Sensitive Vegetation. Uncontrolled pumping of subsurface flows of the Santa Clara River for the Project may result in significant impacts on riparian vegetation in the floodplain. This riparian vegetation includes willow scrub on a portion of the river that passes through the site and willow-cottonwood woodland downstream of the site. Although this vegetation is adapted to the dynamic nature of southern California patterns of flood and drought, a project-related decrease in groundwater levels during the growing season in a dry year could intensify the effects of drought on these riparian communities. The growing season for willows and cottonwoods generally extends from March through August, depending on specific weather conditions each year. Loss of riparian habitat caused by such effects would be considered a significant, adverse impact (see Mitigation Measure B6).

General Wildlife. Implementation of the Project will result in the loss of 187 acres of wildlife habitat spread over the 20-year life of the Project. This habitat not only supports a variety of reptiles, birds, and smaller mammals, but is also likely used as foraging habitat for larger mammalian and avian carnivores such as coyotes, foxes, and hawks. Removal of this habitat is considered adverse and significant because there will be substantial local loss of wildlife diversity. The Project calls for the subsequent reclamation and revegetation of disturbed habitat.

Furthermore, the site is contiguous with open space habitat, including the Angeles National Forest, as discussed under general vegetation impacts. This open space is at least accessible to the more mobile species, which will likely be displaced to these outlying areas with the implementation of the Project. The reinvasion of wildlife into the reclaimed project habitat from outlying areas is likely to occur. Therefore, with reclamation, impacts will be adverse but are reduced to less-than-significant levels.

Some increase in the frequency of roadkills may occur with the increase in vehicular traffic on Soledad Canyon Road. However, the majority of the Project traffic will occur during the day, and most wildlife movement in the vicinity of the site would occur during the night. Because no mining operations for the Project are located south of Soledad Canyon Road, the Project will not impact the river corridor or disrupt the movement of wildlife between Bear Creek and Agua Dulce Creek. Therefore, no significant adverse impacts will occur to the wildlife movement corridors.

The greatest offsite concern with regard to the Project is preserving the downstream habitats occurring along the Santa Clara River. The Project will result in a significant increase in noise and vehicular activity in the immediate area. This increased disturbance could disrupt diurnal wildlife activities such as foraging, predator avoidance, and courtship. The most sensitive areas occur within the Santa Clara River drainage. Increased noise levels in the riparian areas may greatly impact nesting and foraging behavior of smaller birds. The impacts on wildlife in the vicinity of the Project are considered potentially adverse but not significant because noise levels (as determined from noise contours presented in Section 3.1.5) will be below 65 dBA in the riparian habitat.

During nighttime hours, security lighting around facility structures and equipment has the potential of introducing stray lighting into outlying areas. The introduction of stray lighting into outlying habitats could potentially disrupt wildlife activities such as foraging and predator avoidance. This impact is considered potentially significant (see Mitigation Measure B4).

Sensitive Wildlife. Some suitable habitat is present onsite that could support several sensitive species of wildlife. If present on the proposed mining site, the San Diego coast horned lizard, coast patch-nosed snake, coastal rosy boa, and coastal western whiptail could be impacted. However, none of these wildlife species were found onsite, and as discussed in the environmental setting section, their presence in viable population numbers is unlikely.

Areas with potential to support San Diego coast horned lizard are on the north side of the site and fall outside of the proposed mining area. Therefore, no significant impact on this species is anticipated. Areas with potential to support the coastal rosy boa and the coast patch-nosed snake occur only at the base of three ravines on the south side of the Project site adjacent to Soledad Canyon Road. Only one of these ravines falls within the impact area of the mining operation. However, if these species are present in this ravine, the populations would, by virtue of the size of the ravine, be small. Therefore, loss of this habitat would be considered a potentially adverse but not significant impact because it would not represent a substantial loss of individuals of these candidate species if they were present in the ravine. No individuals were observed during any surveys conducted between 1990 and 1995. Therefore, no significant

impacts on the sensitive reptiles are expected for the San Diego coast horned lizard, coast patch-nosed snake, or coast rosy boa from implementation of the Project. Moderate potential exists for the coastal western whiptail to occur over the Project site, but no individuals were found. If the coastal western whiptail was found on the site in substantial numbers, there would be the potential for significant impacts to occur (see Mitigation Measure B3).

Sensitive raptors, such as the golden eagle, will likely be displaced from a portion of their foraging ranges to neighboring habitat with implementation of the Project. However, this potential foraging habitat is not unique to the area, and this impact is not considered significant. Furthermore, the completion of the Reclamation Plan for the site will return foraging habitat to these species.

Of the 17 species listed in Table 3.1.8-2 and denoted with note (1), none were observed during any of the surveys nor have they been confirmed as occurring in the project mining areas. The significance criteria state that an impact is considered significant if there is a substantial loss of populations of a Federal Candidate, CSC, regionally rare, or otherwise sensitive species. These species have not been verified as occurring on the Project site, and even if they do they would probably occur in low numbers, which does not constitute a population. Thus, the mining Project will not cause a substantial loss of populations of any of those 17 species in Table 3.1.8.2. As a result, the impacts of the Project on these species would not be considered significant. If individuals do occur, and if they are affected by the Project, then the impacts would be considered potentially adverse but not significant.

Three of the 17 species discussed above may have a potential to occur adjacent to the Project site in the willow/cottonwood habitat. These species may potentially move through the willow scrub in Area B but would not be expected to nest there due to the level of disturbance and the short stature of the vegetation. The cottonwood/willow habitats located upstream and downstream of Area B are considered more suitable for nesting activities. Regardless of whether or not these species occur in the willow scrub, the impacts are not expected to be significant because the Habitat Protection Plan (see Mitigation Measure B6) offers protection for the willow scrub habitat on the site.

Aquatic Wildlife. The Project will cause increased surface disturbance of the Project site above the Santa Clara River. Uncontrolled surface water runoff could cause increased erosion and sedimentation in the Santa Clara River. Increased sedimentation could significantly impact aquatic and semiaquatic wildlife including the unarmored threespine stickleback (see Mitigation Measure B5). The description of the Project includes installation and maintenance of seven desilting/debris basins to control surface runoff and sedimentation from the site (see Sections 1.4, 3.1.3, and 3.1.4 for description of the basins and analysis of impacts). With implementation of the proposed runoff control plans, no significant impact on the sensitive river habitat is anticipated from sedimentation from the Project.

The Project would use water pumped from the underflow of the Santa Clara River. Uncontrolled pumping during the dry months of drought years could result in significant adverse impacts on sensitive fish species found in the river. Of chief importance is the essential habitat of the unarmored threespine stickleback. Any uncontrolled pumping that caused the permanently

flowing stickleback habitat to run dry or to lose the necessary habitat qualities (i.e., water temperature, oxygen levels, and vegetation) would result in a significant adverse impact (see Mitigation Measure B6). In accordance with Section 7 of the Endangered Species Act, the USFWS has reviewed the Final Biological Assessment (Chambers Group 1996) and has determined that the Project is not likely to jeopardize the continued existence of the unarmored threespine stickleback. A copy of the Biological Opinion is provided in Appendix F11.

Project alternatives have been analyzed that consider either the addition of water to the Santa Clara River via importation from another watershed or the utilization of reclaimed treated sewage water (see Section 3.5.6). These alternatives could have reduced impacts on the habitat of the unarmored threespine stickleback. However, the use of imported water for habitat maintenance or increases in habitat is potentially harmful to the unarmored threespine stickleback and other sensitive species, depending on the biological content of the water. Imported water may contain a variety of predators, competitors, and parasites detrimental to the stickleback. Furthermore, transportation of reclaimed water could result in increased impacts on traffic, noise, and air quality caused by trucks, and short-term impacts from construction of the reclaimed water pipeline to the Project site. Because the Project mitigates impacts on sensitive biological resources, including the unarmored threespine stickleback, to a level of less than significant (see Mitigation Measure B6), these alternatives are not considered environmentally superior to the Project.

Riparian Birds. Habitat for two endangered species of riparian birds, the least Bell's vireo and southwestern willow flycatcher, occurs on the Santa Clara River adjacent to the Project site. Neither species presently inhabits the riparian area. Project operational noise impacts, including blasting, will affect these habitat areas. As shown on Figure 3.1.5-4 (Noise section), most areas within the riparian zone would be experience noise levels of less than 65 CNEL, although two areas could experience levels greater than 65 CNEL (combined level from all sources including vehicle traffic, trains, and mining activities). Single event noise from blasting will be limited to levels normally acceptable at residential receptors and does not represent a significant effect by itself. While the operational noise levels could degrade the nearby habitat relative to reoccupation at some future date, these species are known to inhabit similar areas that are impacted by roadway noise up to 70 dBA. Though potentially adverse, the impact on habitat is considered less than significant.

Any alteration of surface and subsurface hydrology also has the potential of significantly changing the nature and extent of the riparian vegetation found in the floodplain of the Santa Clara River. This vegetation could potentially support several sensitive bird species, most notably the least Bell's vireo. The loss or substantial alteration of the existing riparian vegetation, if it were to occur, would constitute an adverse and significant impact.

Wetlands and Other Jurisdictional Considerations

A number of surveys conducted revealed no wetlands occur on the operations area of the Project site as described on Figure 2.1-3. In addition, no perennial aquatic habitat features (e.g. pools and riffles), salmonid habitat, fish spawning areas, or sensitive species associated with wetlands were found in the operations area. No perennial riverine systems occur in the operations area.

Only ephemeral drainages where the average annual flow is less than 1 cubic foot per second were found on the operations area. Accordingly, no impacts to wetlands or special aquatic sites are associated with the Project.

Some the ephemeral stream courses on the Project site will be altered by the Project mining cuts and associated support facilities (i.e. desilting/debris basins) and reclamation recountouring with earthen fills. The north-central channels draining to Bee Canyon will be affected by construction of the NFSA, while the southwestern channel will be affected by Mining Cut 3. An examination of alternative mining locations was considered in the development of this Project, but there are no practicable alternative mining locations that would eliminate impacts to all ephemeral streams.

The ephemeral streams on the Project site may be jurisdictional "waters of the United States", subject to permitting requirements under Section 404 of the Clean Water Act, 33 U.S.C. § 1344. If the streams are found to be jurisdictional waters, TMC will be required to obtain a permit from the U.S. Army Corps of Engineers for the discharge of "dredged or fill materials" into these streams.

The Corps has issued a number of nationwide permits ("NWP") to facilitate the issuance of permits for projects that have minimal impacts on the waters of the United States. NWP 44 specifically authorizes the issuance of permits for the discharge of dredged or fill material into certain non-tidal waters of the United States for aggregate and hard rock/mineral mining activities with minimal adverse effects on the aquatic environment. Notification to the district engineer is required for all activities authorized by this NWP.

If TMC is required to obtain a Section 404 permit, the Corps will determine if NWP 44 is applicable to this Project. If this determination is made, the proposed Project will be reviewed by the district engineer to ensure that the proposed work would result in minimal adverse effects on the ephemeral streams. If the Corps determines that NWP 44 is not applicable to this Project, an individual permit application will be submitted to the Corps.

Significant impacts to water quality will be avoided by using controlled drainage features, including the proposed desilting/debris basins. Also, Mitigation Measure WR1 provides a catch-all monitoring program for water resources and sensitive ecological habitats that affords additional insurance that wetland and sensitive species habitats would not be adversely affected by the Project. In addition, alteration of these channels will be subject to acquisition of the appropriate permits from the Corps and CDFG.

The Santa Clara River is a jurisdictional water, but the project will not result in the discharge of fill material to the river. Accordingly, no significant impacts would occur from the Project.

3.1.8.5 Mitigation Measures

- B1. The impacts associated with the loss of natural vegetation communities and wildlife habitat in the Project area are less than significant with implementation of the Reclamation Plan. The Reclamation Plan (see Section 1.5) provides for concurrent

revegetation of the site with species presently found onsite. The Reclamation Plan outlines revegetation specifications and establishes performance criteria for success of revegetation of the site.

- B2. Significant impacts on the sensitive plant species (Peirson's morning glory, slender mariposa lily, Plummer's mariposa lily, and club-haired mariposa lily) in the northwestern region of the Project site because of fines placement, and potentially from placement of desilting/debris Basins B and C, will be mitigated by the following actions. Seeds of these sensitive species shall be collected from impacted populations as fines storage proceeds and/or collected from nearby sites to insure genetic integrity, and the seeds shall be incorporated into the revegetation plan for the site. These plant species, especially Peirson's morning glory, are found in areas that have experienced disturbance such as fire or clearing. Therefore, incorporating the seed of these species into the revegetation plan for the site will provide a means to salvage the populations, and impacts on these species will be reduced to less-than-significant levels.
- B3. Potential significant impacts on the coastal western whiptail will be reduced to nonsignificant with the implementation of the Reclamation Plan. This species is often associated with disturbed sites, and implementation of the Project would not represent a permanent loss of its habitat.
- B4. Impacts from stray lighting from facilities and equipment yards will be reduced with the use of low-intensity lighting and direction shields. This will reduce the level of impact to less than significant.
- B5. Potential impacts on the Santa Clara River biological resources from uncontrolled surface runoff from the site will be mitigated through implementation of project design measures including construction and maintenance of seven desilting/debris basins and implementation of the Project SWPPP and the SPCCP.
- B6. Potential impacts on riparian habitat and proposed critical habitat of the unarmored threespine stickleback and regionally sensitive riparian vegetation from uncontrolled pumping of underflows of the Santa Clara River will be mitigated through implementation of the Habitat Protection Plan previously described in water resources (Section 3.1.2.3). The monitoring plan will be a multifaceted program of water resource monitoring and habitat monitoring of the permanent flowing stickleback habitat downstream from the site, as well as seasonal habitat adjacent to and downstream of the site. The Habitat Protection Plan is presented in detail in Appendix F6. The monitoring program will contain action levels based on habitat requirements for the unarmored threespine stickleback and riparian vegetation. These action levels will trigger adjustments to mining operations to reduce Project water consumption including the temporary cessation of pumping if necessary. In response to below-seasonal average rainfall, mining operations will be adjusted during the dry season to reduce water consumption. Operational adjustments will include one or more of the following:

- ▶ seasonal sand and gravel production adjustments,
- ▶ seasonal management of concrete production,
- ▶ temporary stockpiling of fines,
- ▶ increased use of dust palliatives,
- ▶ temporary reduction or cessation of pumping of river underflows, and
- ▶ cessation of mining operations, if necessary.

3.1.8.6 Unavoidable Significant Adverse Effects

The measures proposed above can be feasibly implemented and will reduce the identified impacts to a less-than-significant level. No potential significant unavoidable adverse impacts will remain after mitigation.

In particular, the Habitat Monitoring Plan and action levels will mitigate the potential impacts on the unarmored threespine stickleback habitat and the riparian habitat to levels that are less than significant.